NEW EQUIPMENT DIGEST

A Penton Publication

April, 1959

Volume 24—Number 4

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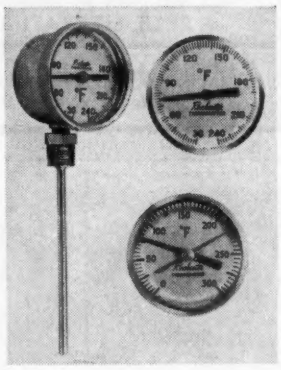
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 106

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

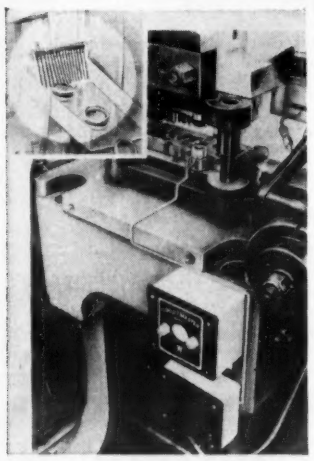
INDUSTRIAL THERMOMETERS
in 3-in. and 4-in. dished dial types



Added to company's line of thermometers are the 3-in. dial straight form unit (top left), the 4-in. industrial thermometer (top right), and the 4-in. maximum set-hand unit (bottom right). Latter two have dished dials. The set-hand thermometer, with pointer resettable to register maximum or minimum temperatures, is used to detect the occurrence and extent of overload in power or distribution transformers. Stainless stems range in length from 2½ to 24 in., although lengths up to 70 in. are obtainable. Made by **Rochester Mfg. Co.**, 100 Rockwood St., Rochester 10, N. Y.

▲ For more details circle **NED-1 D9** on enclosed inquiry slip ▲

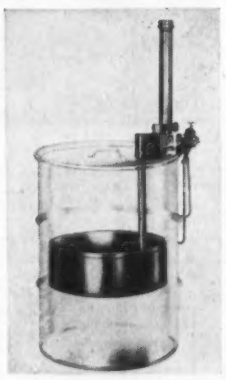
MISSING PARTS DETECTOR
stops machine when ejection fails



Insurance against machine breakdown and die damage caused by failure of parts to eject is provided by the Circuit Master Mark III missing parts detector. It automatically disengages the clutch of a powered machine, and provides auxiliary protection against misfeed, buckling, overload, and end-of-material. Detector consists of a sensitive spring wire assembly that detects nonejections. No setting, supervision, or adjustment is required by the automatic unit. Made by **Wintriss, Inc.**, 20 Vandam St., New York 13, N. Y.

▲ For more details circle **NED-2 D9** on enclosed inquiry slip ▲

PARTS CLEANING AGITATOR
attaches to drum or still tank



Open-head 30 or 55-gal drums or still tanks are converted to efficient parts cleaning units with the lever-controlled Porto-Lif air-powered agitating device. Dirty parts are lowered into the cleaning solution on the platform and are agitated in the solution with 140 up-and-down motions per minute. Swirling, scrubbing action of the liquid reaches into deep recesses of the parts. Platform is raised to waist high level for easy inspection and unloading of parts. Device operates on 30 to 90-psi air pressure and handles 75 lb of parts at one time. Made by **Magnus Chemical Co.**, Equipment Div., Dept. NED, South Avenue, Garwood, N. J.

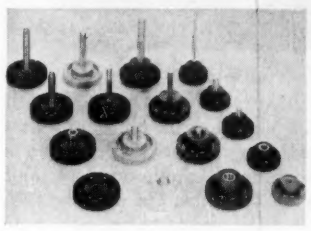
▲ For more details circle **NED-3 D9** on enclosed inquiry slip ▲

MARKING INKS
nine colors in spray cans

Available in nine colors, Reynolds stencil inks can be used for code marking various grades of tool steels. Inks are packaged in spray cans and are applied to one edge of the steel bar. It dries almost instantly and will not rub off. With one entire edge of bar covered with the ink, the identification is always there, even if pieces are sawed off. Ink can be removed with toluol, benzol, alcohol, or lacquer thinner. Made by **Reynolds Ink, Inc.**, 4500 Euclid Ave., Cleveland 3, Ohio.

▲ For more details circle **NED-4 D9** on enclosed inquiry slip ▲

KNURLED HAND WHEELS
line includes adjusting knobs



Clamping wheels, adjusting knobs, and valve handles are applications for these knurled hand wheels. Three have a 1⅞-in. diameter and are made from the same basic mold, but with various insert plugs and stripper pins to order. Fourth wheel has the same shape, but a 1⅜-in. diameter. Black and other phenolic and urea colors can be produced with such special characteristics as chemical and heat resistance, extra strength, electrical insulation, and low friction. Wheels shown in front row are ½, ¾, and 1 in. high, and have no hub or 1 and ¾-in diameter hubs. Other rows show wheels with ¼-20 to ⅜-13 tapped inserts; up to 3-in. long threaded studs with ¼, 5/16, and ⅜-in. bushings; set screws for ¼, 5/16, ⅜, and ½-in. shaft diameters; or plain cored holes. Made by **Dimco-Gray Co.**, 207 E. Sixth St., Dayton 2, Ohio.

▲ For more details circle **NED-5 D9** on enclosed inquiry slip ▲

FUNCTIONAL WALL SYSTEM
can support heavy shelf loads

Additional storage shelves can be added as needed to the Masonite Panelok functional wall system which provides perforated metal lock strips between the 2-ft

wide panels. These support shelf brackets which can be spaced at 1-in. intervals. Relocation of a shelf is accomplished in minutes. Designed to go over old walls, or over studs, the edge-grooved hardboard panels are attached to steel splines previously mounted to studs on 24-in. centers, or to horizontal furring strips 16 in. apart. Up to 50 per cent increase in storage space is possible. Panels are available grain-imprinted for appearance, if desired. Offered by **Masonite Corp.**, 111 W. Washington St., Chicago 2, Ill.

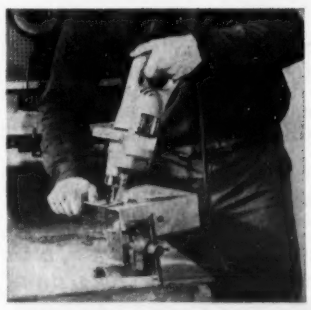
▲ For more details circle **NED-6 D9** on enclosed inquiry slip ▲

HIGH PRESSURE CONTROL
for hazardous, explosive locations

Waterproof Type H98 high pressure air, gas, or liquid control is suitable for use in locations where explosive gases or vapors are present. Pressure ranges extend from 10 to 1700 psi, with proof pressure of 2500 psi and maximum pressure of 3500 psi. Pressure settings are made by turning a knurled knob against a calibrated dial. Setting can be locked with an Allen wrench. A tamper-proof screw-on cap is also provided for additional protection. Available single-pole switches are normally-open, normally-closed, or double-throw with no neutral position. Rated for 15 and 20 amp at 115/230 v ac, they are suitable for ambients to 180° F. Made by **United Electric Controls Co.**, 79 School St., Watertown 72, Mass.

▲ For more details circle **NED-7 D9** on enclosed inquiry slip ▲

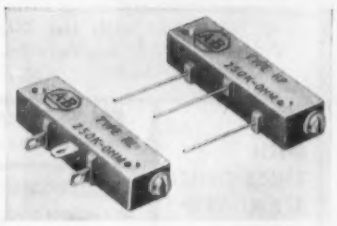
RECIPROCATING SAW
two-speed unit cuts wood and metal



Lower of the two speeds built into the Model 700 Recipro power saw enables it to cut metal rapidly with minimum blade wear. Its higher speed rapidly cuts wood, plastics, fiberboard, and other materials. The reciprocating saw combines hack, keyhole, and hand saw functions. When one section of its blade is worn, the two-position shoe is adjusted to enable use of an unusued part of the blade, thus doubling blade life. Twenty different Recipro saw blades for virtually any sawing job will be offered. Off-center blade location allows cutting close to corners. Saw will make circle, tight angle, left and right-hand cuts. Made by **Skil Corp.**, 5033 N. Elston Ave., Chicago 31, Ill.

▲ For more details circle **NED-8 D9** on enclosed inquiry slip ▲

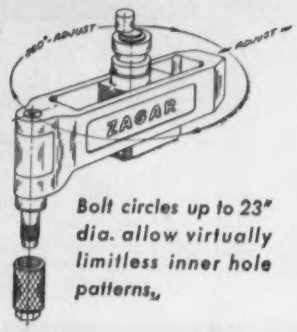
ADJUSTABLE RESISTOR
moving element has 25-turn range



High stability for electronic circuitry is provided by the Type R Trimmer Potentiometer, an adjustable fixed resistor. Self-locking for stable settings, the moving element is adjustable through a 25-turn range. "Free wheeling" clutch prevents overtravel damage. Water and dust-tight molded phenolic case can be potted after adjustment. Solder or lug type terminals for printed board mounting on a 0.1-in. grit system are gold plated for ease of soldering. Mounting holes permit stacking. The 1¼-in. long resistors are rated at ¼ w at 70° C ambient and a maximum of 350 v. Resistance values range from 100 ohms to 2 megohms. Made by **Allen-Bradley Co.**, 136 W. Greenfield Ave., Milwaukee 4, Wis.

▲ For more details circle **NED-9 D9** on enclosed inquiry slip ▲

SHORT RUNS OR IRREGULAR PATTERNS CAN BE DRILLED, REAMED, TAPPED ECONOMICALLY with ZAGAR'S ADJUSTABLE MULTI-SPINDLE HEAD



Bolt circles up to 23" dia. allow virtually limitless inner hole patterns.

NO UNIVERSAL JOINTS.
NO BULKY GEAR CLUSTERS.
NO FLEXIBLE SHAFTS.

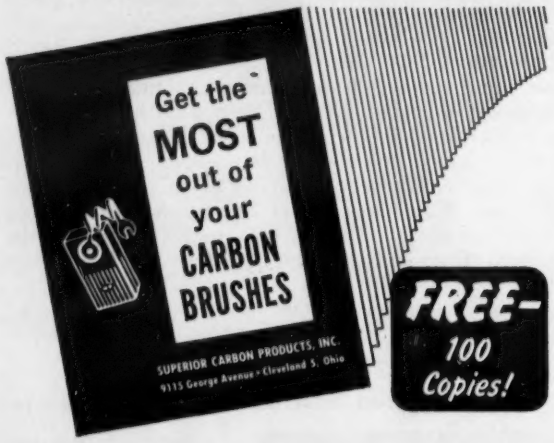
This "ready-to-use" head has *whole* new possibilities never before obtainable in one unit. It can be used on any standard drill press for any machinable material. Spindle arms can be removed and replaced easily, quickly.

Write for Bulletin N-493

ZAGAR, INC. · 23880 Lakeland Blvd., Cleveland 23, Ohio

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

For more details circle NED-10 D9 on enclosed inquiry slip



Here's a NEW bulletin which contains reliable information on the use and maintenance of carbon brushes. Your engineering and maintenance departments will certainly want this valuable reference work. *Suggestion:* Be among the first 100 to request a copy.

The designation is Bulletin "N-4".

Superior CARBON PRODUCTS, INC.
9115 GEORGE AVENUE • CLEVELAND 5, OHIO

BRUSHES • CONTACTS • SLIP RING ASSEMBLIES
POWDER METAL PARTS • MECHANICAL CARBONS

For more details circle NED-11 D9 on enclosed inquiry slip

Save Time and Money Cutting Keyways

***Minute Man* KEYWAY BROACH KIT**

In one minute and for as little as one cent you can cut a keyway with the Minute Man Keyway Broach Kit. For keyways from 1/16" to 1" in any bore from 1/4" to 3".

SAVE WITH THESE OTHER STANDARD STOCK BROACHES

SQUARE BROACHES — 1/8" to 3/4" holes

HEXAGON BROACHES — 1/8" to 3/4" holes

ROUND BROACHES — 1/4" to 1" holes

SEND FOR CATALOG AND PRICE LIST

The duMont Corp.
Greenfield, Mass.

MAIL FREE BROACH CATALOG AND PRICE LIST D describing Square Broaches, Hexagon Broaches, Production Type Keyway Broaches and Keyway Broach Kits to

Name.....
Company.....
Address.....

duMont

For more details circle NED-12 D9 on enclosed inquiry slip

Here's How to Inquire

Most of our readers know how to obtain added information on any product in NEW EQUIPMENT DIGEST. For those who are new users, here's a simple explanation of how the NED Inquiry System works.

Each advertisement or editorial description carries its own code number as follows: "For more details circle NED-000 D9 on enclosed inquiry slip." The number indicates the item, and the letter-number shows the issue, in this case it is April 1959. All of the item numbers also appear on the self-mailing Inquiry Slips which are in the issue.

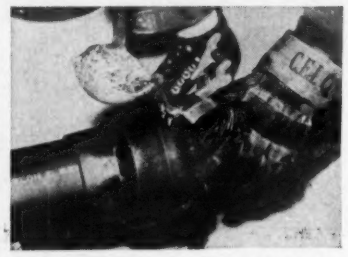
When you want additional data or have need for certain products, you merely (1) circle the corresponding item numbers on the Inquiry Slip; (2) fill in the slip with your name, company, address, and other details; and (3) fold, seal, and mail it. Our Remington Rand electronic processing equipment will quickly forward your request to the manufacturers of these products.

All items also carry the name and address of the manufacturer or distributor so you can write direct, if you prefer.

Either method will assure fast response.

A. N. Gregg
EDITOR

DRAIN PIPE FITTING joins plastic and cast iron pipe



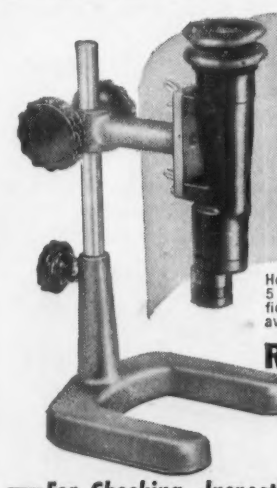
Molten lead joining of Carlon D plastic sewer pipe with cast iron pipe is made possible with this fitting. After solvent welding of the fitting to the plastic pipe, normal procedure for making a hot lead joint is followed. Metal pipe is inserted in the fitting, packed in with oakum, then wrapped with asbestos rope. Asbestos is clamped in place and hot lead is poured. Final tamping of the lead insures a tight seal. Fitting line includes Y's, elbows, tees, and couplings. Made by **Carlon Products Corp.**, Box 133, Aurora, Ohio.

For more details circle NED-13 D9 on enclosed inquiry slip

Pneumatic Conveyors

Fuller Co.—Low-cost fly ash handling methods using pneumatic conveyors are detailed in 16-page Bulletin FF-49-1. Installations employing Airslide Fluidizing conveyors, Fuller-Kinyon pumping system, and rotary compressors are shown. Control can be fully automatic.

For more details circle NED-14 D9 on enclosed inquiry slip



INDUSTRIAL ERECT IMAGE MICROSCOPE
5, 10 and 20 POWER

Height 8½". Raises to 13". At 5×, working distance 11", 1¾" field diam. Accessory objectives available for 15×, 30×, 40×.

REAL VALUE $80
PRICE ONLY $19.95
10-Day Free Trial

For Checking, Inspecting, Small Assemblies!

Built for hard industrial use. Has features usually found only in much higher priced instruments: fine precision; rack and pinion focusing; color corrected optics; turntable microscope body for inclined views; long working distance under objectives; sufficient eye relief for easy viewing. Priced at only 25% of real value because we were able to save on expensive war surplus optics.

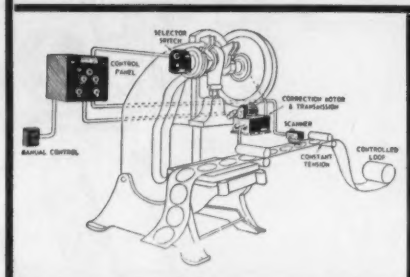
Stock No. 70,172-AE . . . $19.95
Full Price, Postpaid. (Free 10-Day Trial)
Order by Stock No. Send Check or Money Order — or Open Account. MONEY-BACK GUARANTEE.

Write for new 96-Page Catalog AE . . . Describes cost-cutting, work-speeding industrial optical equipment . . . many quality control aids.

EDMUND SCIENTIFIC CO.
BARRINGTON, NEW JERSEY

For more details circle NED-15 D9 on enclosed inquiry slip

PRECISION REGISTER WITH *Photoelectric* WEB CONTROL SAVES UP TO 50% IN TIME, LABOR COSTS!



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- PUNCH PRESSES
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Plus Many More

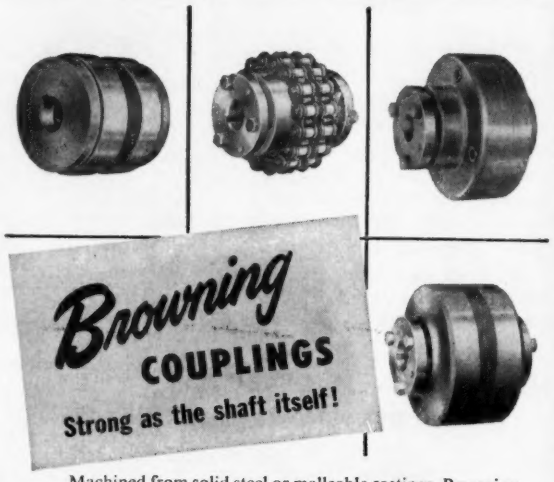
Now available! A photoelectric system that detects errors—transmits information to correction motor and transmission, which automatically makes necessary adjustment immediately. Applicable to all sizes and types of new and used equipment. Increases production—reduces labor and costs. One way units start as low as $195.00.

Describe your problem. Our experienced engineering staff will make recommendations.

FREE LITERATURE ON REQUEST.

MACHINE-O-MATIC INC.
2045 N. Hoyne Ave. • Dept. N • Chicago 47, Ill.

For more details circle NED-16 D9 on enclosed inquiry slip



Machined from solid steel or malleable castings, Browning couplings offer compact design and maximum strength. Here you'll find a wide range of flexible, rigid and chain couplings employing Browning's malleable split taper bushing; also fixed bore in the smaller sizes, and a new line of minimum bore chain couplings. It's easy to choose the coupling best suited for each job, when you examine the complete Browning line.

Ask Browning Distributor or write for Catalog V169

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

For more details circle NED-17 D9 on enclosed inquiry slip

Borg-Warner Industrial Cranes

Quality at a price you can afford...

$9900.00
For a 7½-Ton, 60 Ft. Span, 3 Motor, Top-Running Double Girder Industrial Service Crane

QUALITY *and* PRICE determine value. A price like this for superior Borg-Warner construction and performance means you get top value for your crane dollars. You'll benefit three ways by installing a B-W top-running, motor driven, double girder crane like this:

- More overhead storage space than by fork truck stacking.
- Aisles and work areas cleared of floor type handling equipment.
- Low initial cost, low operating cost, low upkeep.

The crane illustrated is a typical 60 ft. span, 7½ ton capacity installation. For shorter spans, smaller capacities and lighter duty, Borg-Warner Industrial Cranes are available at even lower prices.

Industrial CRANES B-W BORG-WARNER

Design it better ... Make it better.

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1584 S. PAULINA STREET, CHICAGO 8, ILLINOIS, Export Sales:
Borg-Warner International, 36 South Wabash Ave., Chicago 3, Illinois

For more details circle NED-18 D9 on enclosed inquiry slip

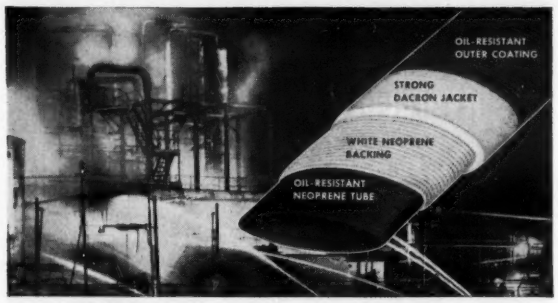
WRITE TODAY
for this catalog containing the complete LOCKING Terminal line

SHAKEPROOF® TERMINALS
incorporating built-in lock washers

Shakeproof Terminals combine soldering lug and famous Shakeproof Lock Washer in one easy-to-handle unit. Assure positive electrical connections. Multiple locking teeth anchor terminal to base, prevent shifting, penetrate oxidized or painted surface. Plain terminals also available. Send for complete information.

SHAKEPROOF
"Fastening Headquarters"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

▲ For more details circle NED-19 D9 on enclosed inquiry slip ▲



Quaker Thermoid PETROCHEM FIRE HOSE
for long wear under tough chemical attack

Lightweight and flexible, "QUAKER" PETROCHEM stands up for *years* where other hose deteriorates in months. Neoprene tube and neoprene-impregnated "Dacron" jacket make PETROCHEM ideal for fire-fighting where chemical and oil exposure is greatest. Users report savings in replacement as high as 90% by switching to PETROCHEM. See your Thermoid distributor, or write *Thermoid Division, H. K. Porter Company, Inc., Tacony & Comly Sts., Philadelphia 24, Pa.*

THERMOID PORTER DIVISION
H.K. PORTER COMPANY, INC.

Divisions: Connors Steel, Delta-Star Electric, Disston, Forge and Fittings, Leschen Wire Rope, Mouldings, National Electric, Refractories, Riverside-Alloy Metal, Thermoid, Vulcan-Kidd Steel, H. K. Porter Company (Canada) Ltd.

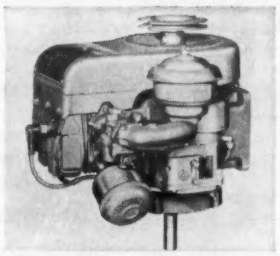
▲ For more details circle NED-20 D9 on enclosed inquiry slip ▲

ARC TIME RECORDER
for calculating incentive rates

When used to measure work for incentive plan bonuses, the Meltime arc time recorder quickly tells the precise amount of time involved on any Arcair or other welding job. It records time down to 0.1 min. Need for physical measuring of weld length, depth, weight, and time is eliminated. Made by **Arcair Co.**, Box 431, Lancaster, Ohio.

▲ For more details circle NED-22 D9 on enclosed inquiry slip ▲

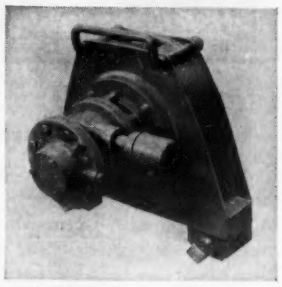
VERTICAL SHAFT ENGINE
two heavy-duty, air-cooled models



Engineered for low silhouette applications, two vertical shaft gasoline engines incorporate tapered roller main bearings, forged aluminum connecting rod, counterbalanced drop-forged crankshaft, and removable aluminum cylinder head. Model HACN is rated from 2.5 to 6 hp at 1600 to 3600 rpm. Larger Model HBKN ranges from 3.5 to 7 hp over the same speed range. Lubrication is by a vane type oil pump which sprays all internal engine parts. Impulse coupling of the dust and weather sealed, outside-mounted magneto produces a strong spark at low cranking speed. Close speed regulation is by a built-in mechanical flyball governor. The carburetor has semiautomatic choke release. A fan cast in the flywheel provides ample cooling up to 1400° F. Made by **Wisconsin Motor Corp.**, 1910 S. 53rd St., Milwaukee 46, Wis.

▲ For more details circle NED-23 D9 on enclosed inquiry slip ▲

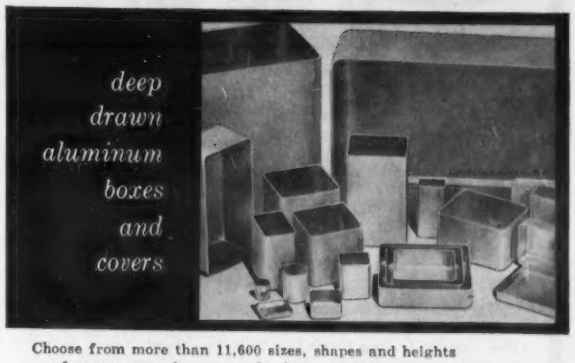
VIBRATION INDUCER
speeds unloading of cars or hoppers



High amplitude vibration is imparted to railroad cars, hoppers, and other equipment by this Vibrolator CCVP to start and keep materials moving or flowing. Operated by compressed air, it can be controlled precisely at any frequency up to 60 cps. Noise level is held low at all frequencies. Shock and sparkproof, this portable vibrator has integral mounting clamp and can be attached readily on equipment in any position or at any angle. Made by **Martin Engineering Co.**, Nedlow Street, Neponset, Ill.

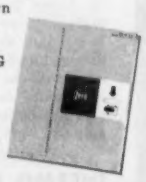
▲ For more details circle NED-24 D9 on enclosed inquiry slip ▲

11,600 Standard Sizes and Shapes WITH NO TOOLING COST!



Choose from more than 11,600 sizes, shapes and heights of square, round, rectangular boxes and covers — pay no tooling charge! All can be trimmed and modified to your specification . . . brackets and fasteners can be installed, holes and louvers punched, etc. Complete facilities for welding and painting too! Send print or contact your Zero Representative for quote on custom deep drawn parts using the exclusive Zero-Method tooling.

WRITE FOR NEW ZERO STOCK BOX CATALOG



Zero ZERO MANUFACTURING CO.
1121 Chestnut Street Burbank, California
Telephone VIctoria 9-5521 • TWX 9862
representatives in 26 key cities covering the U.S.

▲ For more details circle NED-25 D9 on enclosed inquiry slip ▲

ONLY $75.00*

PRECISION BORE GAGE

*Price includes 1 extension

- Long Range — .020"
- .0005" grads
- Hard Steel Contacts
- 3" or 6" length
- 1¼" to 2¼" capacity using only 4 extensions
- Other low-priced Models covering ½" to 12½"

Send for Bulletin.

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Ask FEDERAL *First*
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-26 D9 on enclosed inquiry slip ▲

Nutting **shows you "HOW"...**
the widest choice of floor trucks in the world can cut your costs!

Nutting makes over 1000 products, here are just 15 of them

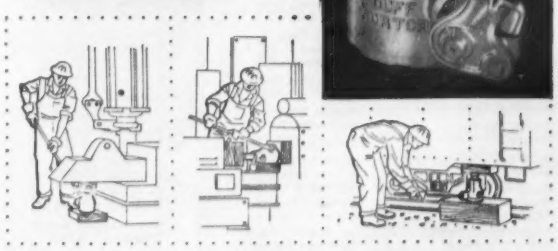
For regular or "special" design floor trucks it pays to talk to Nutting *first*. Here's why: no other company makes more models, sizes or combinations of equipment than Nutting. Many times items which you may find listed as "specials" with other makes are regular equipment in Nutting's complete line. As a result you get "custom built" type trucks at production line prices from Nutting. You not only get overall lower prices; you also get the benefit of 68 years of experience, design "know-how" and modern manufacturing skills. To save valuable hours of your time and get the right equipment for your plant, talk to a Nutting representative *first*, for all your floor truck needs!

Dollar for dollar, feature for feature Nutting is your best floor truck buy. Write for your free copy of new Junior Catalog 59G.

Nutting **TRUCK AND CASTER COMPANY**
480 Division Street • Faribault 14, Minnesota

▲ For more details circle NED-21 D9 on enclosed inquiry slip ▲

200,000 Pounds Of Lifting Power In a 98 Pound Package



The 100 ton capacity Duff-Norton Aluminum Screw Jack weighs only 98 pounds. It is easier to handle and spot than any other type of jack of the same capacity.

Maintenance is virtually eliminated by the rugged construction—aluminum alloy housing and base—heat-treated steel lifting screw—sealed-in lifetime lubrication. These jacks withstand hard usage in any weather. It is impossible for them to creep—will support load indefinitely. They can be used in any position—have no fluid to leak—no air to lock.

Duff-Norton Screw Jacks are available in 25, 35, 50 and 100 ton capacities in aluminum—in 15, 25, 35 and 50 ton capacities in malleable iron. For details ask your distributor or write for Bulletin AD-12N. **Duff-Norton Company, P.O. Box 1889, Pittsburgh 30, Pa.**

▲ For more details circle NED-27 D9 on enclosed inquiry slip ▲

NEW multi-purpose THERMOLYNE ELECTRIC FURNACE for laboratory and industrial use

TYPE 2100 FURNACE with AMPLITROL Control Assembly

This new top-loading THERMOLYNE Type 2100 Electric Furnace is ideal for investigative and pilot runs as well as short-run production or heat-treating of small parts. Extremely versatile . . . use as a salt bath, oil bath, melting, air-heating, drying, crucible or vertical muffle furnace.

Circular heating chamber is 6¾" dia., 11" deep; for 115 or 230 V. Outer case of heavy sheet steel construction is welded and braced. Three insulation types assure minimum heat loss.

Basic unit includes furnace, stainless steel pot with cover and lifting handle, and thermocouple in protection tube. Optional maximum-use accessories include refractory ladle and refractory liner with cover. Automatic or semi-automatic electronic temperature controls available. Price of basic unit without controls, $180.00.

Write for information and name of nearest dealer.

THERMO ELECTRIC MFG. CO.
484 Huff St., Dubuque, Iowa

▲ For more details circle **NED-28 D9** on enclosed inquiry slip ▲

What's the best way to heat a pipe?

Your CHROMALOX Man has the Answer

Your Chromalox Man can help you determine which of the above pipe heating methods is the one best electrical answer to your individual problem.

Maybe Chromalox Strip Heaters best meet your operating conditions. Quickly and easily installed at low initial cost, they provide uniform, accurate temperatures by either automatic or manual control. Lengths from 4" to 96" can be clamped in place side by side, or, half-round strip heaters may be bolted together to a minimum inside radius of 3½".

Or perhaps Chromalox Tubular Heaters are the answer. These versatile heaters are available in straight lengths or bent to any shape you may require.

Still other pipe heating problems can be solved quite simply by Chromalox Pre-Fab woven electric heaters, held in place by lacing, adhesives or snap-fasteners.

Chromalox Thermwire Tape and Cable answer hundreds of other problems that can be solved by low temperature localized heat.

What's the best way for *you?* Just call your Chromalox Representative, listed below. He has the fast, clean, safe, accurate, economical ELECTRICAL ANSWER. He's backed by the world's largest stock of industrial electric heaters, ready for immediate shipment. And, he offers factory design engineering service for special applications.

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Bala-Cynwyd, Pa. MOhawk 4-6113 GReenwood 3-4477
Baltimore, Md. HOpkins 7-3280
Binghamton, N. Y. Phone 4-7703
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Boston, Mass. Liberty 2-1941
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Philadelphia, Pa. (See Bala-Cynwyd, Pa.)
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Seattle, Wash. MAin 4-7297
Syracuse, N. Y. HOward 3-2748
Wichita, Kansas AMherst 2-5647

4975

CHROMALOX Electric Heat
INDUSTRIAL • COMMERCIAL • RESIDENTIAL
EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard • Pittsburgh 8, Pa.

▲ For more details circle **NED-29 D9** on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

A PENTON PUBLICATION • PENTON BUILDING, CLEVELAND 13, OHIO

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BPA NBP

MICROFILM
makes good positive film duplicates

Expanded use of aperture card systems for reproducing and distributing engineering drawings is expected with introduction of 35-mm Microfile print film. It makes high quality positive film duplicates of original microfilm negatives and preserves over 90 per cent of the original camera film resolution. It also provides good reading quality in roll film record work. Announced by Eastman Kodak Co., 343 State St., Rochester 4, N. Y.

▲ For more details circle **NED-30 D9** on enclosed inquiry slip ▲

NEW, USEFUL DATA
on STOCK Roller Conveyors

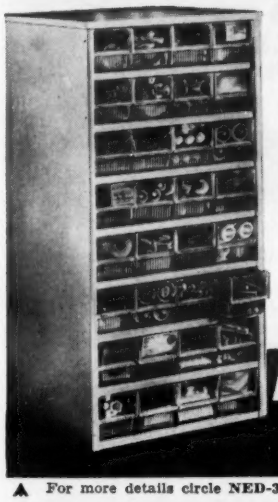
Logan's new Bulletin 80 helps point the way to important savings in conveyor buying. Logan Stock Roller Conveyors can be assembled many ways to serve your needs—at big savings over made-to-order conveyors. Immediate shipment from stock. Conventional and light weight models—steel or aluminum—in wide range of spacings and roller lengths. Built to same high quality standards as Logan's custom-engineered conveyors. Write for your copy today!

LOGAN CO., 215 CABEL ST., LOUISVILLE 6, KENTUCKY

Logan Conveyors

▲ For more details circle **NED-31 D9** on enclosed inquiry slip ▲

FREE CATALOG "How to Solve SMALL PARTS STORAGE PROBLEMS"



Free 32-page illustrated catalog shows 750 different Cabinet Combinations . . . units from 4 to 128 drawers, 24 to 512 compartments, 11 different drawer sizes.

The neat, efficient way to store small parts in offices, shops, labs, etc. Ideal for handling and display.

Production line prices from $2.98

Ask for catalog AM-ED-4

AKRO-MILS, INC.
P. O. Box 989
Akron 9, Ohio

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LEAK PROOF
Hydraulic GREASE FITTINGS

by UNIVERSAL

MANUFACTURERS OF LUBRICATION FITTINGS AND ACCESSORIES
For our new Industrial Catalog write . . .
UNIVERSAL LUBRICATING SYSTEMS, Inc.
Industrial Division • Oakmont, Pa.

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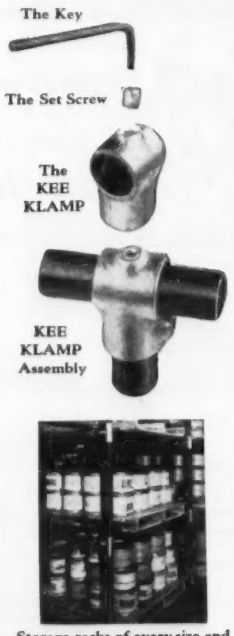


Storage racks of every size and shape are easily built with KEE KLAMPS

NOW you can build your own storage racks quickly with KEE KLAMPS and ordinary pipe

SAVE TIME AND MONEY. With KEE KLAMPS and regular pipe, you can build storage racks, special frames, and many other structures in less time and at lower cost, for permanent or temporary use.

No threading of pipe is necessary. Plain end pipe fits snugly in KEE KLAMP. Each set screw supports load of 4000 lbs. Ordinary Hexagon wrench is only tool needed for erecting a KEE KLAMP structure.

56 VARIETIES for each pipe size 2" to ⅜" provide for every conceivable structure.

- **Fast construction**
- **Rigid structure**
- **Any shape and size**
- **Galvanized for indoor or outdoor use**
- **Easily dismantled and moved**
- **KEE KLAMPS can be used over and over**

Send for your copy of Bulletin No. K25B.

KEE KLAMPS NORTH AMERICA LIMITED
1079 WILLIAM STREET: BUFFALO 6, NEW YORK
Canadian Address - P. O. Box 370, Postal Station "T" - Toronto 19, Ontario

▲ For more details circle **NED-34 D9** on enclosed inquiry slip ▲

SHEARCUTTER PREMIUM
THREAD BROACHES
CUT TAPPING COSTS

IT'S NEW
Shearcutter Premium
THREAD-CUTTING BROACHES
deliver these advantages:
- End tapping trouble.
- Produce threaded holes by a Shearcutting action.
- Are practically unbreakable.
- Ground from hardened high-speed solid blanks.
- Require only half the power needed for tapping.
- Have an amazing long life.
- May be resharpened many times.
- Feed the chips out of the hole.
- Lower production costs.
- Replace standard taps in most sizes.

SHEARCUTTER TOOLS COST LESS IN THE LONG RUN
These ultra-scientific cutting tools are used by practically every large manufacturing company in the U.S.A. Constant repeat orders prove their merit and value.
Patent Warning: All Shearcutter Tools are protected by U.S. and Foreign Patents, received, pending or applied for.

*ANOTHER AMAZING INVENTION OF RALPH GORDON FEAR
SHEARCUT TOOL CO.
MANUFACTURERS OF THE WORLD'S MOST SCIENTIFIC CUTTING TOOLS
7045 DARBY AVENUE Dept-T RESEDA, CALIF.

▲ For more details circle NED-35 D9 on enclosed inquiry slip ▲

STEELMASTER

ONE MACHINE COPES, PUNCHES, SHEARS, MITRES AND NOTCHES!

Size 1½ Model 16 Shears flats up to 6¾" x 9/16". Will crop angles 4½" x 4½" x ½". Punches stock to 1-3/16" x ⅝". Complete with standard tooling, electric motor and controls $6,195

This Steelmaster Universal punching and shearing machine punches and shears simultaneously. It is of highest engineering standards, of quality construction and priced under competitive models. Available for immediate delivery in six sizes from 0-2¾". Write for descriptive literature.

PATHEX Ltd. 1103 Liberty Bank Building Buffalo 2, N. Y.
Phone MAdison 7033. Telegraph PATEXCO, Buffalo

▲ For more details circle NED-36 D9 on enclosed inquiry slip ▲

New..TUNGSTEN and MOLYBDENUM Crucibles

From KULITE— crucibles designed for High Temperature Research for use in
ELECTRONICS
NUCLEONICS
MISSILES

These crucibles are used where a very high melting point metal is required in *High Vacuum—Inert* or *Reducing Atmospheres.*

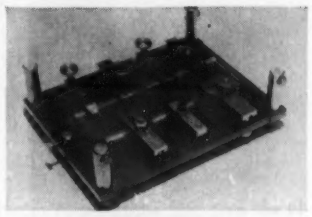
Crucibles are available in a wide variety of lengths and diameters: From 1/2" to 10" long, and 1/4" to 5" O.D.

Let Kulite metallurgists help solve your high temperature parts problems... Write for *Bulletin KTM-9* or call us about your current needs.

Kulite TUNGSTEN CO.
Specialists in Powder Metallurgy and in Refractory Metals & Alloys
1034 HOYT AVE., RIDGEFIELD, N.J. • WHitney 5-3000

▲ For more details circle NED-37 D9 on enclosed inquiry slip ▲

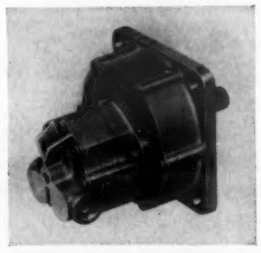
JIG & FIXTURE PLATES
flat to within ±0.0005 in.



All surfaces of these precision ground jig and fixture plates are flat and parallel to within ±0.0005 in., with an over-all 32-microinch ground finish. Plates are available in stainless steel or aluminum in 3/16, ¼, ⅜, and ½-in. thicknesses, in square, round, or rectangular shapes. They are readily adaptable to all jig and fixture applications. Made by **PIC Design Corp.**, 477 Atlantic Ave., East Rockaway, L. I., N. Y.

▲ For more details circle NED-38 D9 on enclosed inquiry slip ▲

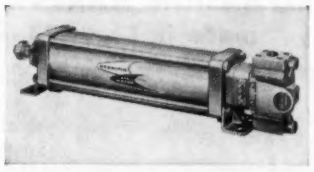
HYDRAULIC MOTOR
has integral gear reducer



A gear type fluid motor mounted as part of a planetary gear reducer comprises this hydraulic motor, designed for driving rotary welding or heat treating fixtures, hoists, turrets and platforms, elevators, and conveyors. Reduction ratio of 4.6:1 assures smooth output. When used with a 1500-psi oil source, unit will provide 150-lb-ft output torque. It mounts on standard, four-bolt, SAE Size D hydraulic pump mount and projects about 7½ in. from mounting surface. Made by **Webster Electric Co.**, Clark & DeKoven Avenues, Racine, Wis.

▲ For more details circle NED-39 D9 on enclosed inquiry slip ▲

AIR CYLINDER & VALVE
is compact linear air motor



Air power cylinder, electrically actuated control valve, and built-in speed controls are combined in the Hannifin Air Motor. The single air power package requires only one air line connection and simplified wiring to the solenoid-actuated pilot-operated valve. Compact, square head cylinder has a rust-proof body and an induction hardened piston rod with chromium plated finish. Reciprocating disc control valve will operate even when the valve is covered by chips or grinder dust, or when splashed with coolant. Easily adjusted controls are built into the four-way valve port plate to provide adjustment of cylinder piston speed in both directions. Motor is available in five bore sizes with stroke to order. Made by **Hannifin Co.**, Dept. 128, 501 S. Wolf Rd., Des Plaines, Ill.

▲ For more details circle NED-40 D9 on enclosed inquiry slip ▲

CLEVELAND SILENT VIBRATOR REDESIGNED

Cleveland Vibrator's RC-50 Quiet Electric Bin Vibrator has been redesigned, making it more compact and more powerful.

The new RC-50 develops an impact force of 2250 pounds and weighs only 84 pounds. It is used to vibrate bins, expediting the flow and handling of bulk materials such as sand, flour and concrete.

The RC-50 operates on the rotating eccentric weight principal and is very quiet. Two cam like weights are rotated at 3600 rpm. to develop the vibrational force. Adjustable weights permit varying the vibration impact between 750 and 2250 pounds.

Cleveland's new RC-50 is available for operation on 110, 220, 440 or 550 volts. Rotary electric vibrators require much less maintenance than electric reciprocating vibrators. In fact, the RC-50 requires no more maintenance than a standard a-c. motor.

Write today for complete details, including prices.

THE CLEVELAND VIBRATOR CO.
3K-2744 Clinton Avenue - Cleveland 10, Ohio

▲ For more details circle NED-41 D9 on enclosed inquiry slip ▲

DO YOU NEED
a low-cost source in metal fabricating?

Two large, well equipped plants at **Aurora, Ill.** and **York, Pa.** geared to economical production . . . Know-how, based on experience in handling thousands of special items . . . Products, parts, sub-assemblies, merchandising units, etc. made to your specifications.

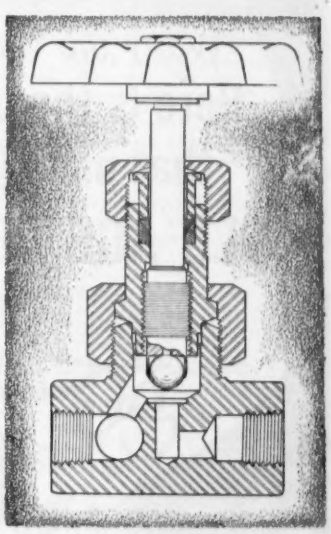
All types of modern equipment, including coil steel slitting, leveling and edging, press work, all types of welding; also electrostatic finishing . . . Experienced design and engineering.

Direct inquiries to: H. G. Knuth
LYON METAL PRODUCTS, INC.
General Offices, 422 Monroe Avenue, Aurora, Illinois

▲ For more details circle NED-42 D9 on enclosed inquiry slip ▲

BALL VALVE

New Seating Surface every time valve closes



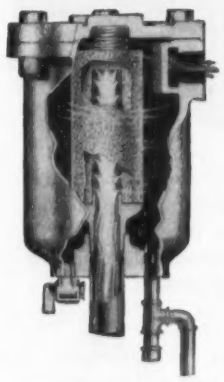
The Foxboro Ball Valve uses a retained, free-rolling stainless steel ball (instead of a disc or plug) that exposes a different seating surface every time you close it. Made of forged steel for heavy industrial liquid, gas, and steam flows. Can't leak . . . practically never wears out . . . costs little or no more than ordinary valves.

These valves handle pressures to 3000 psi. Available in globe and angle types. Two or four connections to simplify piping. ¼" general purpose size. Write for Bulletin 7-14. The Foxboro Company, 664 Neponset Ave., Foxboro, Mass., U.S.A.

FOXBORO INSTRUMENTATION
REG. U. S. PAT. OFF.

▲ For more details circle NED-43 D9 on enclosed inquiry slip ▲

ADAMS PORO-STONE AIR FILTER,
designed to remove oil, water and foreign matter from compressed air lines with minimum pressure drop.



The R. P. Adams Poro-Stone air filter is engineered to efficiently remove entrained oil, water and pipe scale from compressed air lines. Liquid droplets and solids being carried by the gas stream are first removed by centrifugal action in an annular chamber. Secondary filtration is achieved by passing the air or gas stream through a poro-stone unit. An automatic trap can be provided to discharge the residue from the cyclone chamber.

At rated capacity the filters operate at a maximum pressure drop of only ½ lb., thus insuring delivery of line pressure to the point of consumption.

The units require virtually no service or maintenance—thereby insuring continued trouble-free, low cost performance.

ADAMS Poro-Stone air filters are available from stock in sizes to suit your needs. For further information, write today for Bulletin 117, R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

▲ For more details circle NED-44 D9 on enclosed inquiry slip ▲

NEW BENJAMIN HIGH-BAY
MERCURY LIGHTING
units with
AIR FLOW VENTS
CUT COSTS

Air Flow Vents set up a chimney action within the lighting unit to keep dust and dirt from settling on reflector and lamp. Especially important with high-bay units, where cleaning is often costly and difficult. Chimney action also helps cool lamps to increase efficiency. Send for Bulletin E, containing complete line of Benjamin Mercury Vapor Lighting Units.

Benjamin Electric Mfg. Co.
SUBSIDIARY OF THOMAS INDUSTRIES INC.
Dept. W., Des Plaines, Illinois

196R

▲ For more details circle NED-45 D9 on enclosed inquiry slip ▲

Wally the Witt says:
Here is the only can that pays you an OLD AGE PENSION!

That's right—because when ordinary cans reach the retirement age, Witt cans are still going strong, and that's when they start paying you dividends on your investment. You'll replace ordinary cans 5 times without replacing a Witt can even once!

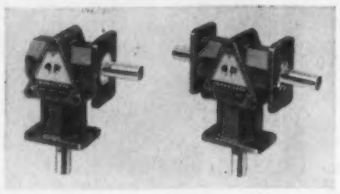
Witt cans are rugged, heavy duty, straight side cans built of heavy gauge steel and hot-dip galvanized after fabrication. The result is, they're leak-proof, crush-proof, practically indestructible. So take advantage of the only available can pension plan—specify Witt.

"ORIGINATORS OF THE CORRUGATED CAN" WITT Cans

THE WITT CORNICE CO., 4468 STEEL PLACE, CINCINNATI 9, OHIO

▲ For more details circle NED-46 D9 on enclosed inquiry slip ▲

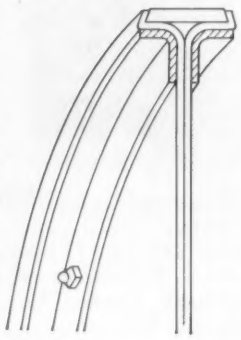
RIGHT-ANGLE DRIVES
17 models have spiral gears



Hardened steel spiral gears used in this line of 17 right-angle power transfer units contribute to their long life, ability to handle high load, and quiet operation. They also have nonmagnetic stainless steel shafts and double-sealed, hardened, and ground ball bearings. Choice of two and three shaft extensions, enclosed 356 aluminum alloy housing, and four or five mounting positions are other features. "Packaged" units may be ordered in two or three-way designs, each having optional 1:1 or 2:1 ratios. Ratings are ¼ to 2 hp. Made by **Harrington & Richardson, Inc.**, Crown Gear Div., 320 Park Ave., Worcester 10, Mass.

▲ For more details circle NED-47 D9 on enclosed inquiry slip ▲

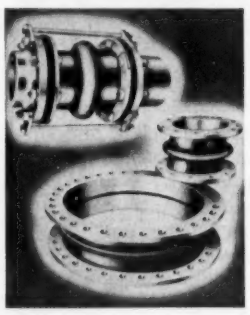
BANDSAW WHEELS
reinforced for heavy duty use



Rims of these heavy duty wheels for use on bandsaws and band resaws are reinforced with a double thickness of steel to make them five times stronger than standard wheels. They are suited for use on resawing operations, very thick work, and on work requiring high blade tension. Dynamic balancing offers vibrationless operation, even at high speeds. Sizes are available for every need. Made by **Carter Products Co.**, 50 Market St. N.W., Grand Rapids, Mich.

▲ For more details circle NED-48 D9 on enclosed inquiry slip ▲

EXPANSION JOINTS
made in ½ to 78 in. sizes



Designed for either pressure or vacuum operations in chemical, oil, water, or exhaust steam lines, these expansion joints operate at temperatures from 180 to 200° F. They are made to specification in sizes from ½ to 78 in. They eliminate electrolysis, are not subject to embrittlement with age, and afford protection from shock, internal expansion and contraction, and vibration. They also compensate for misalignment. Straight sleeve and spool type joints are shown. Made by **Raybestos-Manhattan, Inc.**, Manhattan Rubber Div., 61 Willet St., Passaic, N. J.

▲ For more details circle NED-49 D9 on enclosed inquiry slip ▲

NOW...A COMPLETELY SELF-CONTAINED UNIT

Lifts complete load at center of lift—no stress on cross arms

- less oil volume
- less oil flow
- higher lift, 43"
- lifts 5,000 lbs. plus overload factor
- lower collapsed height, 9"
- fewer moving parts—less maintenance
- higher speed lifting and collapsing

The UPCO lift sells in economical price range yet offers features of more expensive machines. For free brochure and more details, fill out coupon below and mail to: United Products Co., 3001 N. Starr St., Tacoma 2, Washington.

Some Distributor Franchises still available. Write for full particulars.

UNITED PRODUCTS CO., 3001 North Starr Street, Tacoma 2, Wash.
Send brochure on Upco Lift Table Dept. NED-1
Name.....
Business Address.....
City..... Zone..... State.....

UNITED PRODUCTS CO. A Division of Meridian Corp.
3001 North Starr Street Tacoma 2, Washington

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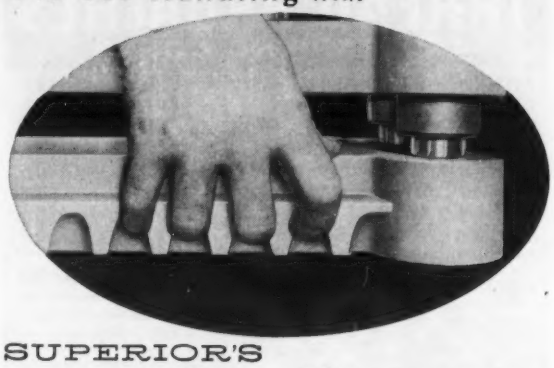
Eliminate Hazardous Die Set Handling *with*



SUPERIOR'S
safety flange

It is no longer necessary to take needless risks in handling die sets. Risks that might easily injure the hands of skilled die makers or ruin costly dies in process. Superior's exclusive safety flanges eliminate these hazards, by providing roomy gripping space on both sides of the die shoe, giving protection to the handler's fingers and hands.

This safe, secure gripping flange is one of the many exclusive features incorporated on Superior die sets. Write today for our free 28 page catalog that gives complete information.

SUPERIOR STEEL PRODUCTS CORP.
2754 S. 19th St. Milwaukee, Wis.

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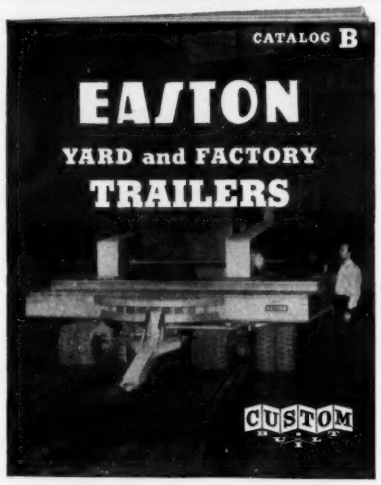

THIS NEW, FREE EASTON CATALOG illustrates the various types of heavy-duty yard and factory trailers that are now providing economical, efficient material handling service in many industries. Capacities illustrated range from 1 to 100 tons! It's a package of **ideas** for material handling engineers and plant operations men. Write for Catalog B.

A-1066

EASTON CAR & CONSTRUCTION COMPANY • EASTON, PA.

Sales Offices or Representatives in
Boston • Buffalo • Chicago • Cleveland • Milwaukee
New York • Philadelphia • Pittsburgh • St. Paul

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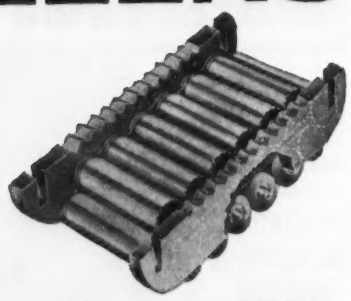
EXPRESS ROLLERS

MOVE
30 Tons
for $200



EASIER - SAFER - FASTER

Don't Slide It, Roll It! Cut down machinery moving time to minutes with a set of Express Rollers. Rugged; compact; for tight places. Complete Folder shows recommended set for loads from 2-150 tons; prices; turning attachments; accessories. SEND FOR FREE LITERATURE TODAY!

INDUSTRIAL EAST CO.
P. O. 561, Clifton 3, New Jersey
Our Catalog may be found in
Sweet's Plant Engineering File, '59

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- EXCLUSIVE Span-Jet Nozzles . . . 160° hollow cone spray . . . 180° flat circular spray . . . capacities .75 to 10 GPM
- EXCLUSIVE Tan-Jet Nozzles . . . solid cone spray . . . capacities .50 to 10 GPM
- EXCLUSIVE Simplified, time-saving nozzle selection tables
- PLUS 32 pages of other illustrated industrial spray nozzles, flow chart, spray patterns, spray characteristics and basic engineering data.

Write for your free copy today.

WM. STEINEN MFG. CO.®
INDUSTRIAL NOZZLE DIVISION
39-45 Bruen Street, Newark, New Jersey
SERVING INDUSTRY FOR MORE THAN FIFTY YEARS

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PORFIL

STOPS DUSTING of Concrete Floors

Your concrete floors "dust" away from constant traffic. This dust gets into machinery, equipment, products . . . is often tracked onto other floor surfaces. It also endangers your employees' working efficiency, morale and health.

PORFIL quickly seals pores in concrete, stops "dusting", keeps dirt on top . . . cuts sweeping time in half. Your plant stays cleaner, healthier. Your maintenance savings more than pay for PORFIL. It's easy to apply, is available in clear or in 4 striking colors.

FREE! 32 PAGE MODERN FLOOR CARE BOOKLET "WHAT EVERY EXECUTIVE SHOULD KNOW ABOUT THIS VITAL THOUSANDTH OF AN INCH". SEND FOR YOUR COPY

Branch Offices in Principal Cities In Canada: Toronto, Ontario

MYCO

MASURY-YOUNG CO.
76 Roland Street, Boston 29, Mass.

☐ I'D LIKE A DEMONSTRATION PLEASE . . . so I can see for myself how Porfil saves concrete floors from disintegrating, and stops dusting.

☐ Send me free your new floor care booklet "What Every Executive Should Know About This Vital Thousandth of an Inch".

*Name*_____
*Company*_____
*Address*_____
*City*_____ *State*_____

NE 49

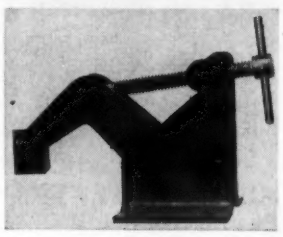
▲ For more details circle **NED-55 D9** on enclosed inquiry slip ▲

FLOW INTEGRATOR
photocell actuates digital counter

Full use of the inherent advantages of rotameters can be realized with the MPT-53 flow integrator. It uses a frictionless method to translate the vertical motion of a rotameter metering float into a rotary motion. A $4\frac{1}{4}$-in. scale indicates the flow rate which is totalized every 3 sec on a six-digit counter. Card or tape printing counters and predetermining counters for automatic batch control are available. Integrator can be installed outdoors and operates over a −20 to 120° F ambient range. Made by **Brooks Rotameter Co.**, Box 432, Lansdale, Pa.

▲ For more details circle **NED-56 D9** on enclosed inquiry slip ▲

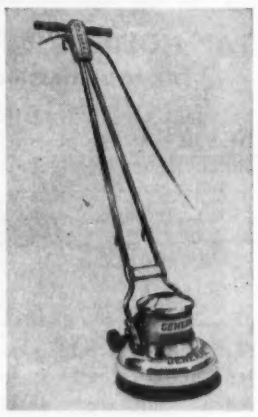
SMALL FIXTURE CLAMP
2-in. adjustable type



Double flanged base, clamping screw with T-handle, and swiveling shoe that rotates in one plane on the arm are features of the 2-in. Kant-Twist fixture clamp. Incorporating the design of larger clamps in the line, it is made of high tensile steel. Made by **Saxton Mfg. Co.**, 1517 N. Potrero Ave., South El Monte, Calif.

▲ For more details circle **NED-57 D9** on enclosed inquiry slip ▲

FLOOR MACHINE
handle locks in two positions



An automatic safety switch which cannot be turned on when the handle is in a vertical position is a feature of the Model KL Dyna-Craft, a 13-in. floor machine. Its locking handle has two positions—at 90-degrees for storage and at 45-degrees for operation. Machine can be tipped back on its wheels in either handle position. A carry-grip also aids in moving it from floor to floor or room to room. Machine also has a nonmarking wrap-around bumper, gear drive, sealed-in lubrication, and a $\frac{1}{3}$-hp motor. Made by **General Floorcraft, Inc.**, 3630 Rombouts Ave., Bronx 66, N. Y.

▲ For more details circle **NED-58 D9** on enclosed inquiry slip ▲

SOLENOIDS
For HYDRAULIC VALVES and General Use

NA-703-A-2 PUSH TYPE (with loose pin)
10.5 lb. at 0.5" stroke

NA-700 LINE OF SOLENOIDS

Capacities: 0.5 lbs. at 0.5" stroke to 35 lbs. at 1" stroke.
For O.E.M, general use and replacement trade.
ALSO: Many other standard lines of solenoids.
ALSO: Reversing solenoids of all types and capacity.
ALSO: Explosion proof solenoids of all types and sizes.
ALSO: Solenoid brakes up to 24,000 ft-lbs. capacity.
ALSO: Reciprocators and Semotors.
Write for data and catalog. See SWEET'S Catalog.

TROMBETTA SOLENOID CORP.
329 NORTH MILWAUKEE STREET • MILWAUKEE 2, WISCONSIN

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New Efficiency

The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy

FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid
(INDUSTRIAL PRICE ONLY)

FLEXO PRODUCTS, INC. Westlake, Ohio

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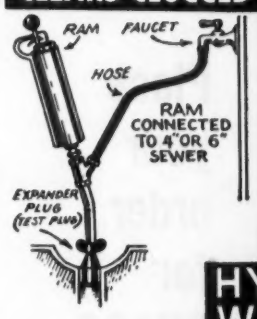
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
214 INDUSTRIAL HEIGHTS KIEL, WISCONSIN

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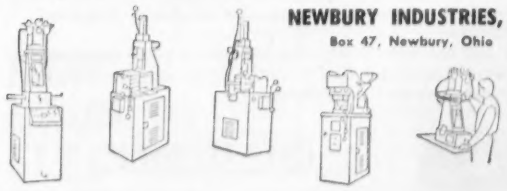
Project Engineers:

IF YOUR PROBLEMS INVOLVE INJECTION MOLDING OF SMALL PLASTIC PARTS . . .

This free booklet is a must!

Shows you how MINI-JECTORS® cut major costs. Produce: *QUICKER*—thousands of molded items often made before big press tooling is off design board; *BETTER*—award-winning quality and precision even with molds involving inserts or loose cores; *FOR LESS*—develop and produce molded items at fraction of big press tooling costs. Shows latest methods of developing and producing small (1/3 to 1½ oz.) items in *all* thermoplastics, including Nylon. MINI-JECTOR machines from under $1,000 complete. Mold blanks as low as $29.50. *One user saved over $4,000 mold costs alone on one item.*

NEWBURY INDUSTRIES, INC.
Box 47, Newbury, Ohio



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Box 47, Newbury, Ohio
Please send me your new free catalog

Name .....
Company .....
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For convenience clip coupon to your letterhead and mail.

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BREATHE EASIER

Double filters provide comfortable breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Patented exhalation valve guards against re-breathing stale air.

Cover scientifically designed respirators have been adopted as standard equipment by industries the world over. Free literature on request describing models for every purpose. See your safety equipment supplier or order sample direct. Model shown—only $2.00 postpaid.

H. S. COVER
Dept. 405, South Bend 14, Ind.
"Respirators for Industry Since 1894"

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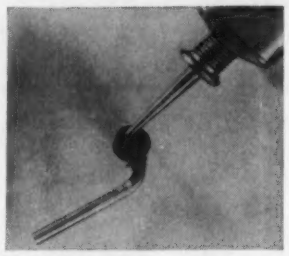
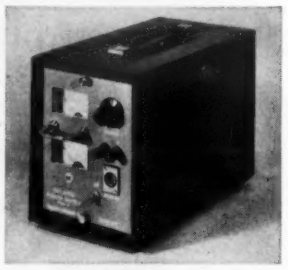
SELF-SEALING OIL CAPS
oil can spout inserted through slit



Dust and dirt can be kept from entering oiling holes by these self-sealing oil caps. Made of strong, flexible, and oil resistant Hycar synthetic rubber, they permit one-hand oiling from any direction. The oil can spout is inserted through the dust-tight oiling slit in the top of the cap from any angle. Caps may be attached to 1/8 to 3/8-in. diameter steel, copper, brass, and other tubes of any shape. Made by **Eynon-Dakin Co.**, 9900 Freeland Ave., Detroit 27, Mich.

▲ For more details circle NED-71 D9 on enclosed inquiry slip ▲

POWER SUPPLY
provides 0 to 20 v at 1 amp



An output isolated from line voltage and line ground is provided by the Model 21 power supply which uses a shielded transformer and feedback isolation circuits. Unit provides 0 to 20 v at 1 amp regulated direct current power by transistorized circuitry. The isolation provided permits dynamically accurate results when used with bridge type transducers such as strain gages, accelerometers, resistance thermometers, and pressure gages. An output receptacle permits remote shielding of power cables, and a voltmeter and ammeter monitor the output. The 7 x 9 x 14-in. instrument is portable and suited for rack mounting. Made by **Moeller Instrument Co.**, Electronics Div., 132nd Street & 89th Avenue, Richmond Hill 18, N. Y.

▲ For more details circle NED-72 D9 on enclosed inquiry slip ▲

TAP HOLDERS
for machine or hand tapping

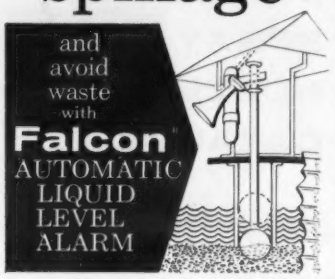
Standard taps in sizes from No. 0-80 to 1/2-in.-20 are held in this line of 8-in. tap extensions or tap holders, suited for either machine or hand use. Squared shank

of the tap fits into a corresponding square in the extension socket and is held by two socket set screws. Set of nine Style B extensions enables taps to be lengthened from 8 to 28 1/4 in. Individual units are also offered. Made by **Walton Co.**, Box 5, Elmwood Branch, Hartford 10, Conn.

▲ For more details circle NED-73 D9 on enclosed inquiry slip ▲

"Sounds for Safety"

prevent HAZARDOUS spillage



"Blue Chip" petroleum and chemical firms now are installing this unit to prevent wasteful, always expensive and often dangerous tank overflow in refineries, plants, bulk stations, transportation and other liquid-handling operations.

Falcon Liquid Level Alarms are—
● Non-Electric ● Non-Pneumatic ● Self-Contained ● Inexpensive ● Audible Up to 1/2-Mile or More. ● Easily Installed on Existing Equipment

WRITE for particulars — and free, informative "Sounds for Safety" folder! DEPT. ND

Falcon® ALARM CO., INC.
SUMMIT, NEW JERSEY

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Place your order for BRASS Tube *With*

WOLVERINE TUBE
DIVISION OF
CALUMET & HECLA, INC.
17272 Southfield Road
Allen Park, Michigan
Manufacturers of Quality Controlled Tubing and Extruded Aluminum Shapes

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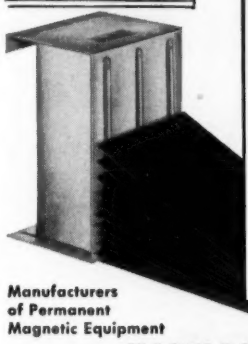
STEEL SHEETS STICK?
use a

Magni-Power

SHEET STEEL SEPARATOR

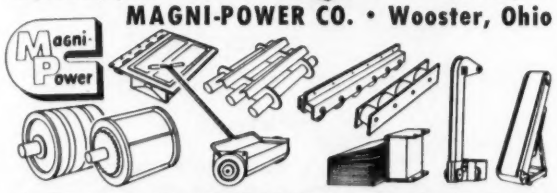
Permanent magnetic separation provides the most sure and efficient handling of oily sheets or blanks. Magni-Power advanced design offers many additional features—long wearing stainless steel case—all welded, no bolts or rivets. Point contact ribs for quick separation and sheet removal. Free specification sheet with full description available.



Manufacturers of Permanent Magnetic Equipment

Write Dept. A

MAGNI-POWER CO. • Wooster, Ohio



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Which are the flame retardant grades of Synthane laminated plastics? How flame-retardant are the standard grades? What are the economics of flame retardant laminates?

There are some interesting answers to these questions in the new Synthane Bulletin TP9-1, plus suggested applications. Send for a copy today.

SYNTHANE

Synthane Corporation, NE River Road, Oaks, Pa.
Please send me Bulletin TP9-1 describing flame-retardant Synthane plastic laminates.

Name _____
Address _____
City _____ Zone ____ State ____

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HOW TO CUT COSTS with CABLE CONVEYORS
new bulletin 40A tells how . . .

GET YOUR COPY TODAY!

Learn how you can save valuable floor space...cut maintenance costs . . . by using BUSH-LOCK Overhead Trolley Cable Conveyor Stock Components arranged to your exact requirements. Write for the new Bulletin 40A today!

Every Way Better C-333-EWB
THE E. W. BUSCHMAN CO.
4482 Clifton Avenue Cincinnati 32, Ohio

E W B
CONVEYORS FOR EVERY INDUSTRY

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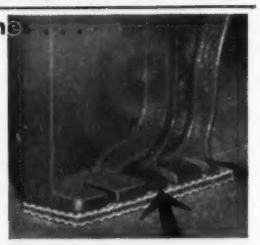
How about your machine . . .
Is deadly VIBRATION
Reducing machine life
Affecting accuracy and surface finish
Shortening tool life ?



Put VIBRA✓CHECK pads under your machines, and cancel vibration before it starts!

CHECK ALL THESE ADVANTAGES

✓ reduces vibration 90% ✓ reduces disturbing noises ✓ ease of installation — needs no bolts or cement ✓ permits easy relocation of machine and re-use of same pads ✓ prevents machine "creeping" ✓ load strength 7500 psi ✓ resists oil, grease, brine, detergents ✓ cost of mounting average machine $5 to $7.

Place trial order for:
___ pieces, size___x___inches @ 7¢ sq. in.

LOWELL INDUSTRIES, INC.

Send for literature.

LOWELL INDUSTRIES INC.
ESTABLISHED 1938
Subsidiary of H. F. Livermore Corporation
BOSTON 34, MASSACHUSETTS

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FREE SAMPLES

LOW COST PLASTIC PLUGS

Color coded, patented polyethylene protective plugs save time and money . . . simplify inventory and stock room operations. Easy to read sizes are also molded into the bottom of each plug.

These new, low cost plugs are engineered to provide extra wall thickness at points of greatest stress. Protect products in process . . . in storage . . . in shipment!

Protector Products is your *single* source for all internal and external protectors; steel, plastic, paper-lined steel and aluminum. Immediate shipment from stock! Write for samples and prices *today!*

PROTECTOR PRODUCTS, INC.
2150 West 15 St. Cleveland 13, Ohio
World's Leading Mfgr. of Metal & Plastic Protectors
A-2101

▲ For more details circle NED-78 D9 on enclosed inquiry slip ▲

▲ For more details circle NED-79 D9 on enclosed inquiry slip ▲

USE THIS NEW KIND OF DIAMOND CUT-OFF WHEEL

Gives narrower, smoother cuts on industry's toughest materials

. . . yet prices start at only $32.25

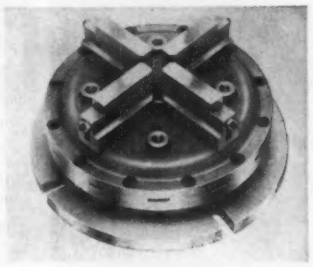
Now . . . at *production prices* . . . DIATRONIC gives you a rim width of .006" that's accurate to a maximum total tolerance of .0005"—or your money back. This accuracy is built in by a new process. No break-in needed. New narrow cut reduces sawdust loss 30%. A must for $3,000-a-pound silicon or germanium crystal. Cuts tungsten carbide, corundum, aluminum oxide, glass . . . practically anything. Stock orders shipped in hours; special wheels available. Write for literature, price list.

Another invention marketed by
NAVAN PRODUCTS, INC.
Subsidiary of North American Aviation, Inc.
Dept. 221, International Airport, Los Angeles 45, Cal.

DIATRONIC* DIAMOND WHEELS
"with built-in tolerance" *TRADEMARK

▲ For more details circle NED-80 D9 on enclosed inquiry slip ▲

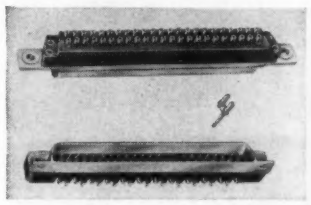
DIAPHRAGM CHUCKS
capacities to 6½-in. diameter



Utmost accuracy and concentricity in holding workpieces are assured with precision air-operated diaphragm chucks. Workpiece can be chucked internally or externally. Design features quick diaphragm replacement, interchangeable jaws, and sludge slots in the periphery. Model 5½ has ⅛ to 3-in. diameter capacity; Model 7, ½ to 4¼-in. capacity; and Model 10, 1 to 6½ in. diameters. Piston areas are 13.80, 24.74, and 49.68 sq in., respectively. Diaphragm construction reduces stress concentration. Made by **Erickson Tool Co.**, 34350 Solon Rd., Solon, Ohio.

▲ For more details circle NED-81 D9 on enclosed inquiry slip ▲

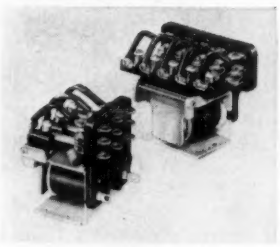
TAPER PIN CONNECTORS
with 7 to 32 total contacts



Total contacts of 7, 11, 15, 19, 23, and 32, or custom configurations are available in UPCC-FDTP printed card connectors. Two rows of taper pin terminals are linked mechanically and electronically for use with AMP 53 taper pins. Positive re-entry of male pins is assured by molding-assist. Connectors are suitable for critical environmental conditions and extremes of military applications. Made by **U. S. Components, Inc.**, 454 E. 148th St., New York 55, N. Y.

▲ For more details circle NED-82 D9 on enclosed inquiry slip ▲

POWER RELAY
rated 10-25 amp, 110 v ac



Single coil construction, employing box-type magnetic field, is featured by Type U general purpose power relay. The ¼-in. diameter contacts are available in either silver or silver cadmium oxide and are rated singly at 10 to 25 amp, 110 v ac noninductive. Minimum contact pressure is 35 grams each. Direct-current relays incorporate high quality iron annealed for maximum efficiency, whereas alternating-current relays have silicon iron parts, with copper shading washers. Nominal operating voltages range from 6 to 115 v dc, and from 6 to 230 v ac. Made by **Comar Electric Co.**, 3349 Addison St., Chicago 18, Ill.

▲ For more details circle NED-83 D9 on enclosed inquiry slip ▲

BECKER

HAS IT... OR CAN MAKE IT— if it's CARBON or GRAPHITE!

A dependable source for everything in Carbon and Graphite

Graphite Cores and Chills—Graphite Powder and Particles of any mesh . . . complete Graphite Fabrication Facilities.

BRUSHES . . . for all motor and generator applications . . . carbon, graphite, copper leaf, gauze and metal-graphite.

WELDING ELECTRODES, WELDER BRUSHES . . . Keen-Cut Electrodes for carbon arc-air jet cutting . . . Keen-Arc Carbons, cored and heavily copper coated, for twin-arc torches . . . paste, rods and plates.

EXTRUSIONS, MOLDED SHAPES OR SPECIAL CARBONS designed and produced to your specifications.

SEND FOR CATALOG

COMPLETE BECKER ENGINEERING SERVICE is always available and entails no obligation whatever

BECKER BROTHERS CARBON CO.
3454 South Laramie Ave. • Cicero 50, Illinois
Telephone: BI 2-1260 • Chicago

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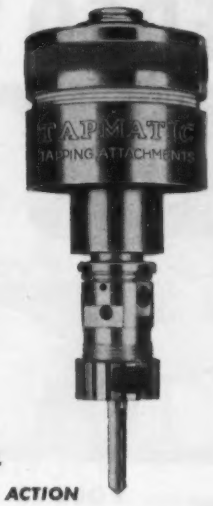
TAPMATIC'S NEW

TAPPING ATTACHMENTS

WITH the features YOU demanded

- Simplified trouble-free construction
- Universal adaptability
- Positive depth control
- Either right or left-handed operation



PLUS Tapmatic's Famous
TORQUE TONE CONTROL
WEIGHTLESS FLOATING ACTION

Now the world's most complete line of tapping attachments for reversing or non-reversing spindles. Your choice of seven profit-making models. Manufactured in the U.S.A.

Write or wire for literature.

TAPMATIC CORPORATION
845 West 16th Street • Costa Mesa, California
Phone Liberty 8-3404

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When ordinary pumps fail... switch to quality pumps from Brown & Sharpe

Brown & Sharpe makes and stocks more pumps, for handling more fluids, than any other pump manufacturer. It has 70 years of pump experience. B&S pumps are built with closer tolerances and finer finishes for longer life, even at high speeds. Available to you quickly through your Brown & Sharpe industrial distributor. Brown & Sharpe Mfg. Co., Providence 1, R. I.

Brown & Sharpe
HYDRAULICS DIVISION
GEAR, VANE AND CENTRIFUGAL PUMPS
DOUBLE A VALVES
GEROTOR PUMPS
POWER UNITS
PROGRESS IN PRECISION FOR OVER 135 YEARS

Precision Tools and Gages • Milling, Grinding and Screw Machines
Cutters • Machine Tool Accessories • Pumps and Hydraulic Valves

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NOW! ERASE TIME AND WORK!

NEW BRUNING ELECTRIC ERASER

■ Every draftsman, engineer, and typist should have one! This, the original hollow shaft eraser and most widely used, has been newly engineered for erasing comfort and efficiency!

BRUNING

Charles Bruning Company, Inc., Dept. 4-KK
1800 Central Rd., Mt. Prospect, Illinois
Offices in Principal U.S. Cities
In Canada: 105 Church St., Toronto 1, Ontario
Please send me full information on the new Bruning Electric Eraser.
Name_____ Title_____
Company_____
Address_____
City_____ County_____ State_____

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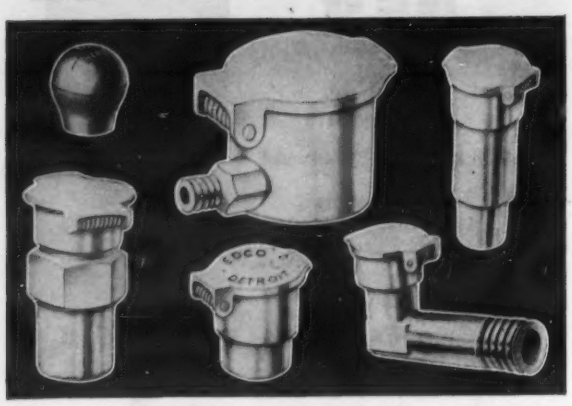
EDCO OILERS AND... CHECK VALVES



VOLUME PRODUCTION TUBES AND ASSEMBLIES

EYNON-DAKIN CO.
9900 FREELAND AVE., DETROIT, MICH.

WRITE FOR NEW CATALOG NO. B58
Phone TE 4-7700

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Make overhead space contribute to plant earnings

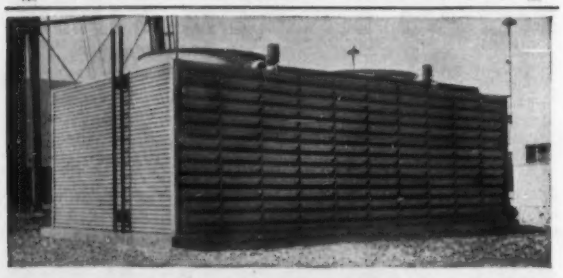
CAPACITIES ½ TO 5 TON

• SINGLE AND TWO SPEED MODELS

METEORS offer real materials handling help in many ways. Read all about their unusual operating advantages in the METEOR CATALOG *sent on request.* Illustrates all details of suspension and construction. Prices included.

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ontario

▲ For more details circle NED-89 D9 on enclosed inquiry slip ▲



Stop Costly Water Waste With MARLEY Cooling Towers

There are "hot spots" in every plant that pipe profits down the drain by wasting water that could be saved by recirculation. Marley cooling towers save 95% of water wasted in air conditioning and refrigeration; in welding, molding and quenching and other process operations. Only Marley makes a line of towers so complete that you can select a standard easy-to-install, minimum maintenance model that will deliver full performance for your exact requirements —in your available plan area. Get details of possible saving—call the Marley engineer in your city or write

The Marley Company
7045 Brookside Rd., Kansas City, Mo.

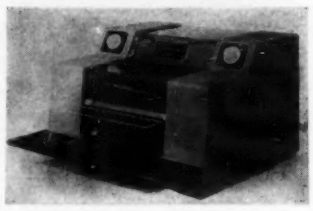
▲ For more details circle NED-90 D9 on enclosed inquiry slip ▲

PHOTOELECTRIC CONTROL requires 10 ft-c minimum light

Transistorized Model BT1 photoelectric control combines relatively fast operation with low upkeep. Conservative operating requirements are 10 ft-c minimum light with 0.04 sec minimum dark and light times. Its relay energizes when light is on the sensing element. Single-pole double-throw silver cadmium oxide contacts are rated 8 amp at 115 v ac, noninductive. Sensing element is mounted behind a small opening in a shield to exclude extraneous light. Cast aluminum case with gasket seals protects the unit against mechanical injury, dust, and moisture. Variety of light sources and miniature remote sensing heads are available. Made by **Autotron, Inc.**, Box 722-D, Danville, Ill.

▲ For more details circle NED-91 D9 on enclosed inquiry slip ▲

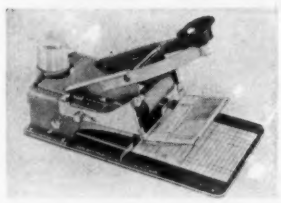
CARD DUPLICATOR for Actifilm and Filmsort cards



Ozalid Actifilm cards and standard Filmsort cards are duplicated in quantity by this Card-to-Card Printer. It assures close-contact, quality reproduction of drawings, parts lists, and documents. Printer is part of a system for reproduction of existing film through a dry process. It has a 725-w lamp which requires 12 amp at 110 v ac. Throat size of the 22 x 19 x 14½-in. printer is 10 in. Made by **General Aniline & Film Corp.**, Ozalid Div., Microline Products Group, 27 Corliss Lane, Johnson City, N. Y.

▲ For more details circle NED-92 D9 on enclosed inquiry slip ▲

DESK MODEL ADDRESSER margin guides are adjustable



Operator of Model 60 desk model spirit addresser can adjust the margins to permit simple interchange of the size sheet to be imprinted. This feature adapts machine to almost any repetitive writing job. It prints with spirit fluid from adhesive-backed paper masters prepared on any typewriter. Masters can be used separately, or simply pressed onto existing records, such as ledger cards. Top line can be registered on top margin of sheet, or bottom line can be registered up to 5¼ in. from top of sheet. Lateral adjustment is unlimited, and any size sheet can be imprinted. The 7½-lb unit is made by **Master Addresser Co., 6500 W. Lake St., Minneapolis 26, Minn.**

▲ For more details circle NED-93 D9 on enclosed inquiry slip ▲

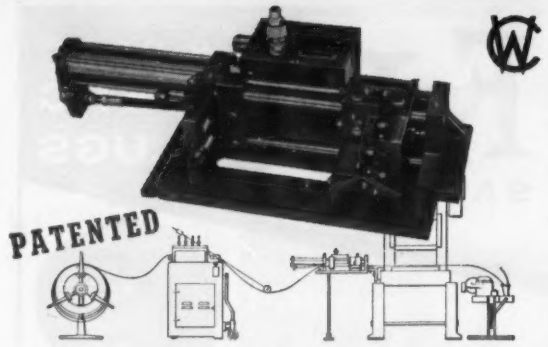
Are your Wire Cloth Filtering and Screening Applications giving TOP EFFICIENCY?

How long since you checked your wire cloth filtering or screening? Perhaps new alloys, mesh sizes and weaves can show you new efficiencies and economies. Check your specifications and requirements with Cleveland today. They have available hundreds of the finest quality wire cloth samples from which to select a wire cloth for your needs. You can rely on Cleveland's recommendations — supported by 40 years of manufacturing experience in the weaving of wire cloth and fabrication into products. Send specifications today. Ask for Bulletin No. 7.

See our ad in MacRae's Blue Book and The Purchasing Directory

THE CLEVELAND WIRE CLOTH & MFG. CO.
3573 EAST 78th STREET, CLEVELAND 5, OHIO • DI 1-1832

▲ For more details circle NED-94 D9 on enclosed inquiry slip ▲



air operated slide feeds

The proven, low-cost way to get increased output and efficiency from your present stamping and shearing equipment. Ideal automatic operation even on short runs and frequent changeovers.

Simple, versatile, self-contained — operates from standard air lines — install directly on press bolster — simple air valve and cam timing — quick, accurate single-screw feed adjustment — open throat construction handles widest range of stock widths — nine sizes, with strokes to 24", for flat or irregular stock to 3/16" thick and 30" wide in lighter gauges.

FOR A FULLY AUTOMATIC STAMPING LINE
also ask about Cooper Weymouth combination cradles and straighteners, stock reels, stock and wire straighteners, scrap choppers and small parts straighteners.

COOPER WEYMOUTH, INC.
604 Honeyspot Road, Stratford, Conn.

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Sicon®

HEAT RESISTANT FINISH

PROTECTS ENGINE SHROUDS OF THE

MARTIN MATADOR

When USAF TM-61 Martin Matadors are recalled for servicing and refinishing, SICON Silicone finish is specified because it meets the performance required.

Sicon's ability to withstand high temperatures up to 1000°F. without breakdown has won an enviable name for itself in the aircraft industry, as well as in many others.

Write for new SICON Bulletin—Dept. No. 8-D.

MIDLAND
INDUSTRIAL FINISHES COMPANY
WAUKEGAN • ILLINOIS
ENAMELS • SYNTHETICS • LACQUERS • VARNISHES

▲ For more details circle NED-96 D9 on enclosed inquiry slip ▲

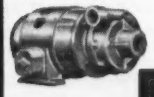
END-SUCTION PUMPS

over **50** MODELS TO CHOOSE FROM
In the Peerless Fluidyne Line

YOU HANDLE MOST ALL WATER PUMPING JOBS
With the Peerless Fluidyne Line

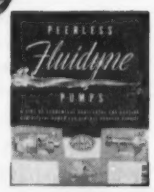
WIDEST RANGE OF HEADS & CAPACITIES
In the Peerless Fluidyne Line

Put an economical PEERLESS *Fluidyne Line End-Suction Pump to work now*



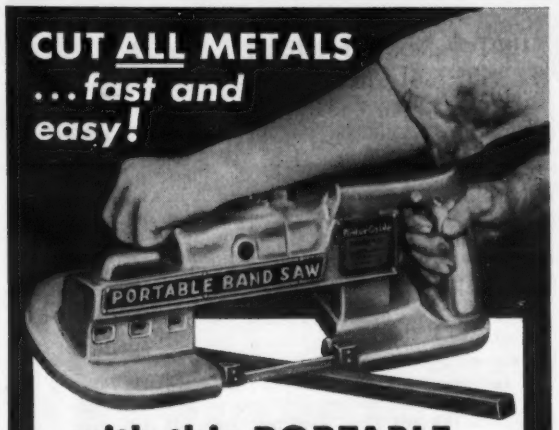
FREE CATALOG

Request Peerless Bulletin No. B-2300. Contains 32 pages from which you can buy and apply these end-suction pumps ... Complete with pictures, description, dimensions and head-capacity selection charts. Free. Write today for your copy.



PEERLESS PUMP DIVISION
FOOD MACHINERY and CHEMICAL CORPORATION
Address Inquiries to Factories at:
Los Angeles 31, California
Indianapolis 8, Indiana

▲ For more details circle NED-97 D9 on enclosed inquiry slip ▲



CUT ALL METALS ...fast and easy!

with this PORTABLE timesaver BANDSAW

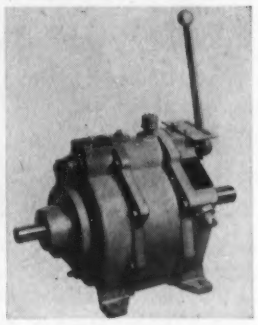
Zip through both ferrous and non-ferrous metals — even tool and stainless steels. Handles 3¼" x 4¼" rectangular stock, ¾" dia. round stock... well balanced, easy to use... 6.5 amp. universal motor, blade moves at 240 sfpm. Ask your Porter-Cable distributor or write for a demonstration.

PORTER-CABLE MACHINE COMPANY
9124 Marcellus Street
Syracuse 4, N. Y.

Porter-Cable
Quality Power Tools

For more details circle NED-98 D9 on enclosed inquiry slip

REVERSING TRANSMISSION
transmits 28 hp at 2000 rpm input



Two forward speeds, neutral, reverse, and reduction actions are combined into this versatile 5-in-1 reversing transmission unit. This Model 5231 transmits up to 28 hp at maximum input of 2000 rpm. Reduction ratio is 1.97:1 and 3.34:1 in forward speeds and 3.37:1 in reverse. Measuring only 15 11/16 x 14 x 14¾ in., unit can be used in material handling, machine tool, and construction equipment. Made by **Snow-Nabstedt Gear Corp.**, Industrial Div., Hamden, Conn.

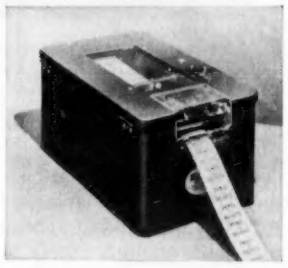
For more details circle NED-101 D9 on enclosed inquiry slip

ELECTRIC NUMBERING MACHINE
dates and codes carbon paper forms

Multiple carbon snap-out forms, 1-to-12 carbon interleaved forms, vouchers, and invoices are numbered, dated, or coded as fast as they can be fed into this Powermark electric numbering machine. It performs consecutive, duplicate, or repeat numbering. Engraved steel figures are 3/16 in. high. The 10-lb, gray-finished machine is available in 6 to 8-wheel models, actuated by a platform Micro Switch or foot control. Made by **Pryor Marking Products**, 434 S. Wabash Ave., Chicago 5, Ill.

For more details circle NED-102 D9 on enclosed inquiry slip

AUTOMATIC LABEL PRINTER
prints and dispenses 110 per min



Pressure-sensitive labels are printed, die-cut, and dispensed from any liner-mounted roll tape at controlled speeds up to 110 per minute by this automatic label printer-die-cutter. Machine is suitable for either production or short-run requirements. It uses smudgeproof ink which requires no drying time after printing. Rubber copy plate is changed in 30 sec; ink color or dies, in less than 1 min. Typical applications include packaging, pricing, coding, identification, and inspection. Made by **W. H. Brady Co.**, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-103 D9 on enclosed inquiry slip

FOR QUICK FOOLPROOF FLUID LINE CONNECTIONS

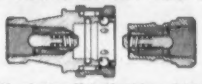
Here's the coupling for the job

To connect a Hansen Two-Way Shut-Off Coupling, you merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Available in brass or steel with female pipe thread connections from ⅛" to 1" inclusive.

Write for the Hansen Catalog

Here is an always ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen One-Way Shut-Off, Two-Way Shut-Off, and Straight-Through Couplings.

HANSEN SERIES HK®
TWO-WAY SHUT-OFF COUPLING

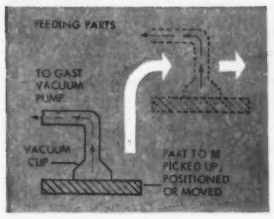


Instantly shuts off both sides of line ... prevents loss of liquid, gas or pressure.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-105 D9 on enclosed inquiry slip



NEW

Gast Booklet ready to give you

"APPLICATION IDEAS"

on uses of air motors, compressors, vacuum pumps

Looking for new ways to improve methods—save time—or cut costs? This booklet may be valuable to you! With line drawings, it shows dozens of the basic principles of "putting air to work".

With photographs of our customers' products—from air mixers to data plotters—it illustrates each principle...and shows how Gast rotary Air Motors, Compressors and Vacuum Pumps provide advantages as original equipment or in plant use.

Design Engineer or Plant Master Mechanic, you'll find this booklet of interest...and it may "spark" an important idea you can use!

WRITE TODAY FOR NEW "APPLICATION IDEAS" BOOKLET!

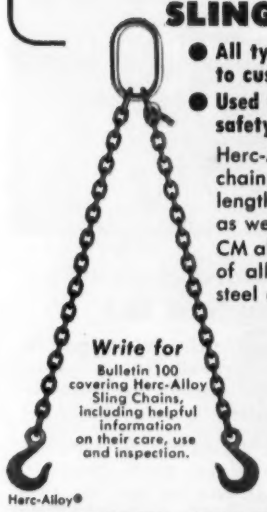
Gast Manufacturing Corp.
P.O. Box 117-R
Benton Harbor, Mich.

GAST ROTARY
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
"Air may be your answer!"

For more details circle NED-99 D9 on enclosed inquiry slip

HERC-ALLOY

SLING CHAINS



- All types and sizes assembled to customers' specifications.
- Used throughout industry where safety is paramount.

Herc-Alloy is the original alloy chain. It is available in running lengths and special assemblies as well as slings.

CM also produces welded chain of all types including stainless steel and bronze.

Write for Bulletin 100 covering Herc-Alloy Sling Chains, including helpful information on their care, use and inspection.

Herc-Alloy®

CM CHAIN

COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
NEW YORK • CHICAGO • CLEVELAND
LOS ANGELES • SAN FRANCISCO

In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONTARIO

For more details circle NED-106 D9 on enclosed inquiry slip

NEW! "Feather-touch" PUSH-to-TEST PILOT LIGHT

- Completely oil-tight, even when depressed
- Pressure connections eliminate internal wires
- Positive contact "feel" in test position
- No additional panel space required
- Choice of 6 color caps
- Full range of voltage ratings
- Mounts interchangeably with oil-tight pushbuttons and selector switches

Write for Bulletin 9001-T to Square D Company, 4041 North Richards Street, Milwaukee 12, Wis.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-100 D9 on enclosed inquiry slip

SQUARE D's New Aluminum Plug-In Duct with Exclusive I-BEAM DESIGN

4 TIMES STRONGER

Write for Bulletin SD-110. Address Square D Company, 6060 Rivard Street, Detroit 11, Michigan.

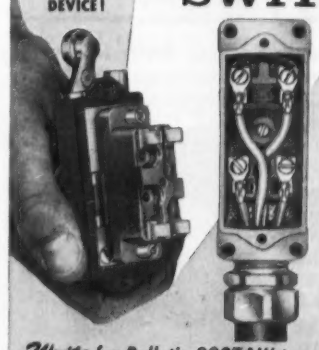
NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-104 D9 on enclosed inquiry slip

NEW! EASY-TO-USE PLUG-IN LIMIT SWITCH

6 MOUNTING ARRANGEMENTS WITH 1 DEVICE!



- Oil-tight construction
- Switch plugs in—in seconds
- Mounts without disassembly
- Wired without removing from box
- Reversible plug-in unit—can be plugged-in with roller arm at either end
- Present installations easily converted to plug-in
- Same price as standard Square D oil-tight limit switch

Write for Bulletin 9007AW to Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-107 D9 on enclosed inquiry slip

New GEMCO ROTATING CAM LIMIT SWITCH

PRECISION CAM ADJUSTMENT WITH A SCREW DRIVER . . . IN SECONDS!

One type cam . . . no special cam lobes required.

Snap Action Switches, N. O. and N. C.—electrically separated

2 through 12 circuits. Available in NEMA 1, 4, 5, 7, 9 and 12 enclosures.

Please send Bulletin 558 for complete story of new Gemco Rotating Cam Limit Switches.

NAME _____

COMPANY _____

CITY _____ ZONE _____ STATE _____

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

▲ For more details circle NED-108 D9 on enclosed inquiry slip ▲

New high capacity V-belt revolutionizes drive design

Makes drives far more compact... cuts cost as much as 20%

Here is a major advance in the field of power transmission—the fully proved Gates Super HC V-Belt, developed in the world's largest belt-testing laboratories at Gates.

The Gates Super HC V-Belt makes possible the lowest-cost, lightest-weight, most compact multiple V-belt drive that can be put on any machine! Sheave diameters can be reduced up to 50%, sheave widths 30% to 50%, center distances 20% and more.

On new drives, the cost of a Gates Super HC V-Belt Drive is as much as 20% less than present V-belt drives of the same horsepower capacity.

Savings multiply with Gates Super HC V-Belt Drive

In addition to the lower cost of the drive itself, economies are realized on housings and bases — materials, production time, shipping costs.

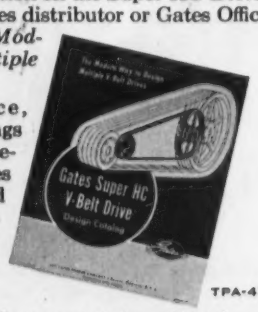
Shown below are space savings of a typical installation . . .

	DriveR Sheave Diam.	DriveN Sheave Diam.	Center Distance	No. of belts
Present Drive	7.4"	20.0"	42.9"	4
Super HC Drive	5.3"	14.0"	30.0"	3

Learn more about the cost-saving Super HC Drive

For detailed information on the Super HC Drive, contact your nearby Gates distributor or Gates Office for new booklet, *"The Modern Way to Design Multiple V-Belt Drives."*

For utmost space, weight and dollar savings in new drives or drive replacements, specify Gates Super HC V-Belts and Sheaves. Stocks immediately available in principal industrial centers.



TPA-410

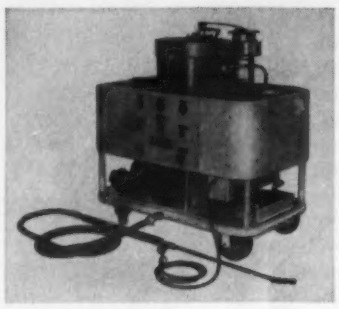
Gates World's Largest Maker of V-Belts

The Gates Rubber Company, Denver, Colorado

Gates Super HC V-Belt Drives

▲ For more details circle NED-109 D9 on enclosed inquiry slip ▲

INDUSTRIAL STEAM CLEANER
cleans, strips paint, phosphatizes

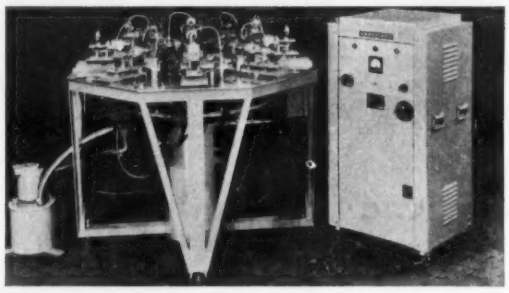


In addition to heavy-duty production cleaning, this kerosine or fuel oil-fired steam cleaner can be used for continuous paint stripping and phosphatizing. Steam and detergent or other compound, or steam alone can be delivered at high velocity. Fuel consumption is about 2½ gph. Automatic low-water cutoff prevents machine from starting without water and stops operation if water supply is interrupted. Pressure limiting switch and a steam pop-off valve are added safety devices. Heating coil is self-draining and nonclogging and coil housing is water-jacketed for automatic preheating of water. The 600-lb cleaner is easily moved about on its rubber-tired wheels. It is also offered in an electrically heated model. Made by **Turbo Machine Co.**, Lansdale, Pa.

▲ For more details circle NED-110 D9 on enclosed inquiry slip ▲

ULTRASONIC MACHINE TOOL
eight-station unit operates on one generator to machine hard materials

Up to eight ultrasonic machining operations can be carried on simultaneously, or independently on the multiple-station Sheffield-Cavitron ultrasonic machine tool.



Stations are arranged in a circle on a waist-high, 4½-ft diameter table. Machine requires only one electronic generator, one transducer, and one operator to machine such hard, brittle materials as germanium, silicon, ferrite, glass, and quartz.

Each machining station accommodates a cutting tool up to 1.08 in. in diameter and machines the workpiece to 0.050-in. depth. Through Sheffield extended-type ultrasonic tooling, 20,000 ultrasonic machining strokes per second are delivered from the transducer through a curved cylindrical rod to each cutting station. Remote 1000-w, 110-v ac generator drives the single magnetostrictive transducer mounted in the well of the table. Machine can be arranged for completely automatic operation. Made by **Sheffield Corp.**, Box 893, Dayton 1, Ohio.

▲ For more details circle NED-111 D9 on enclosed inquiry slip ▲

New bulletin tells how to get Superior Nylon Performance with NYLATRON® GS Stock Shapes

Detailed data on this unique material is available for your technical files — describing uses, engineering properties, availabilities, etc. Write today for your copy.

NYLATRON GS (molybdenum disulphide filled nylon*) offers exceptionally improved performance for nylon component parts. Stock shapes cost no more than regular nylon, yet offer greater wear resistance, lower surface friction, higher strength, better heat resistance, improved dimensional stability. It will pay you to investigate its remarkable properties!

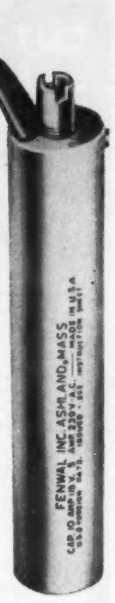
Visit POLYMER Booth No. 315
Design Engineering Show, Philadelphia
May 25 to 28

THE POLYMER CORPORATION OF PENNA.
Export: Polypenco, Inc., Reading, Pa., U.S.A.
*Composition and use for machine parts covered by U.S. Patent

POLYPENCO

▲ For more details circle NED-112 D9 on enclosed inquiry slip ▲

FENWAL THERMOSWITCH® UNIT — MOST EFFICIENT, ECONOMICAL THERMOSTAT
Overwhelmingly superior to enclosed bi-metallic thermostats



Fenwal Differential Expansion THERMOSWITCH Unit Series 17000 offers precision control, instant response, and multi-purpose versatility in one compact unit that withstands vibration and shock — and is easy to install. High sensitivity and load-carrying capacity, low thermal lag, and wide adjustment range make the Fenwal THERMOSWITCH Unit the ideal industrial temperature control.

Big Advantages for You:

1. **Increased output** — Fenwal THERMOSWITCH Units can control temperatures so precisely — within 0.1°F! — your machines will run at top speeds.
2. **Increased flexibility** — Fenwal THERMOSWITCH Units have a range of −100°F to +700°F, open up new markets for your machines.
3. **Less maintenance** — Fenwal THERMOSWITCH Units withstand ten times the vibration that ordinary thermostats can, keep your machines running longer!

For further information about Fenwal controls, write to **Fenwal Incorporated, 274 Pleasant Street, Ashland, Mass.**

Fenwal Controls Temperature . . . *Precisely*

▲ For more details circle NED-113 D9 on enclosed inquiry slip ▲

KESTER SOLDER

KESTER SOLDER's highest standards of manufacture and use of virgin metals exclusively are behind its almost single-minded acceptance by industry. Such acceptance has been 60 years in the making . . . and we don't take its responsibility lightly.

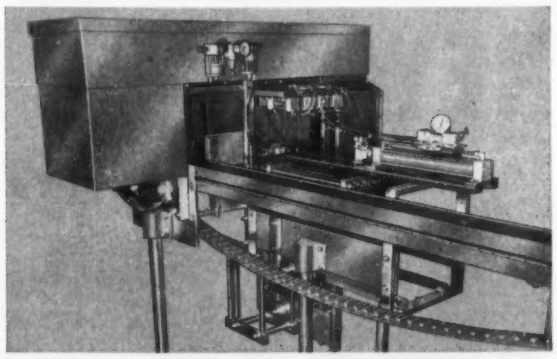
WRITE *today for Kester manual "SOLDER... Its Fundamentals and Usage." Free.*

KESTER SOLDER COMPANY
4249 Wrightwood Avenue, Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

60 Anniversary KESTER SOLDER

OVER 60 YEARS' EXPERIENCE IN SOLDER AND FLUX MANUFACTURING

▲ For more details circle NED-114 D9 on enclosed inquiry slip ▲



Cherry-Burrell Mapes Universal paper bottle caser

CUTS BOTTLE CASING COSTS

If you require two or more men per filler, Cherry-Burrell's Mapes Universal caser can reduce your costs by 8 man-hours per day. One man can easily operate one or more fillers and the automatic caser.

Handles all paper bottles — Pure Pak, Canco or Sealking with equal ease. No adjustments necessary. Side pressure plates eliminate need for special carton grippers. Gentle side-pressure handling also reduces carton damage, cuts down leakers.

Wide capacity range—Cherry-Burrell Mapes Universal casers are available in a wide range of capacities and sizes. Single-line or multi-line infeeds. Half gallon series handles ½ gallon Pure Pak. Quart series handles all other types and sizes of paper bottles — multi-layering of pints and ½ quarts. Get full information from a Cherry-Burrell Sales Engineer or write to:

CHERRY-BURRELL CORPORATION
CEDAR RAPIDS, IOWA

▲ For more details circle NED-115 D9 on enclosed inquiry slip ▲

Call *Carpenter* for...

WELDED
Stainless Tubing & Pipe

This low-cost general purpose straight chrome grade of tubing and pipe is a standard Carpenter product—not just a specialty. Type 410 has excellent corrosion resistance in annealed or heat-treated condition to crude oil, gasoline, alcohol, ammonia, carbonic acid, mine water, atmospheric conditions and other reagents. Scale-free in continuous service to 1250°F. Good fabricating and welding properties. Tubing sizes of ¼" to 4½" O.D. with walls of 25 to 9 BWG. Pipe: Schedules 5 and 10—⅛" to 4", Schedule 40—⅛" to 2". Ask nearest Carpenter representative for detailed information or request Technical Data Bulletin.

THE CARPENTER STEEL COMPANY
Alloy Tube Division • Union, N.J.

▲ For more details circle NED-116 D9 on enclosed inquiry slip ▲

HOLTITE Heat Sealed
ENVELOPED SCREWS
for manufacturers who supply screws with the product

ENVELOPES available from stock are White Kraft—Brown Kraft and transparent Cellophane — or any combination. SPECIAL papers and colors, or plastic can be furnished quantity permitting.

ENVELOPE SIZES can be 2", 3" or 4" wide and any length from 2" to 5".

ANY NUMBER and variety of screws and/or nuts can be enveloped together, subject to capacity of envelope.

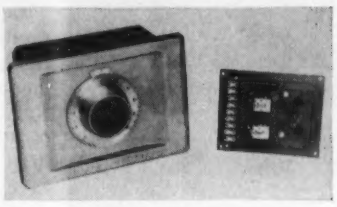
DESCRIPTION, instructions, name, trademark, etc. can be printed on envelopes at small extra cost.

ELIMINATE loose screw counting and wrapping. Save time, cost, complaints. No overage — no shortage. Screws heat-sealed in polyethylene coated paper or cellophane — protected from moisture. For details, write Dept. ND.

CONTINENTAL
SCREW COMPANY, NEW BEDFORD, MASS.
HOLTITE FASTENERS
HOLTITE PHILLIPS AND SLOTTED HEAD
WOOD • MACHINE • TAPPING • THREAD FORMING • SEMS • NYLOK

▲ For more details circle NED-117 D9 on enclosed inquiry slip ▲

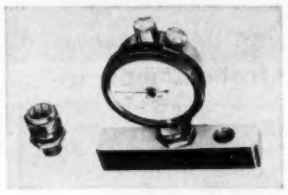
POSITIONING CONTROL
for valves, pumps, machine tools



Accurate, remote position control for valves, variable displacement pumps, machine tools, or variable speed drives is provided by the transistorized D - 52 Dialtrol positioner. Designed for panel or desk-top use, it transmits control signal from liquid level, dancer roll, or pressure transducer device to shaft-mounted actuator. Command is set in on a dial or counter-type setter. Dialtrol will also control linear actuators with up to 40-in. strokes, with thrusts to several thousand pounds. Shaft-mounted actuators are offered in four sizes, in torques from one to several thousand pound-inches. Made by **Jordan Co.**, 3235 W. Hampton Ave., Milwaukee 9, Wis.

▲ For more details circle NED-119 D9 on enclosed inquiry slip ▲

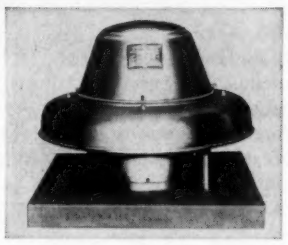
DEPTH GAGE
features versatile mounting collet



Special ⅜-in. spring collet that accommodates any A.G.D. dial indicator is supplied with this Petline depth gage. It facilitates mounting indicator on fixture gages and plate or angle blocks. Depth gage is available in two or three-hole models to check center or offset depths of holes, as well as recesses, slots, and other depressions. Special length bases are made to specification. Made by **Petz-Emery, Inc.**, Pleasant Valley, N. Y.

▲ For more details circle NED-120 D9 on enclosed inquiry slip ▲

ROOF VENTILATOR
capacities from 138 to 2950 cfm



Low contour is combined with large exhaust area in line of direct-drive spun-aluminum roof ventilators which range in wheel diameters from 7¾ to 15 in. and capacities from 138 to 2950 cfm. Aluminum wheels have a self-limiting horsepower feature and are dynamically balanced before and after assembly. Split-capacitor type motors, wound for 115-v single-phase ac, are located in separate compartment, out of the air stream. Permanently lubricated bearings, rubber-mounted operating parts, and removable hood are features. Also available are a disconnect switch, acid-resistant finish, special motors, and automatic or motorized curb-mounted shutters. Made by **Peerless Electric Co.**, Fan & Blower Div., Market Street, Warren, Ohio.

▲ For more details circle NED-121 D9 on enclosed inquiry slip ▲

Chip Away

SCALE
RUST
PAINT

AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for complete details

AURAND MFG. & EQUIPMENT CO.
1322 Ellis St., Cincinnati 23, Ohio

▲ For more details circle NED-122 D9 on enclosed inquiry slip ▲

**NEW DESIGN-
LONGER LIFE-
LESS MAINTENANCE**

New, Improved IDEAL

ALL-SERVICE CLEANER

● Air-engineered to deliver the "max" in performance and long gruelling service. New brush assembly and greater brush length increases brush life by 100%. Special pigtail terminal prevents damage to commutator even when maintenance is neglected.

Improved mounting doubles bearing life and eliminates wear on bearing seats. Bearing load is spread over an increased area to reduce wear and equalize the load. Air movement over coils and armature windings has been stepped up approximately 50% so that motor runs cool at all times.

The result: The best cleaner in its class, in performance and economy. Shown is the Heavy Duty Model, with Blower Nozzle. Complete sets of attachments for any job . . . vacuum cleaning, scrap collecting, spraying paints, oil and other liquids, even drying.*

** Light Duty Model only*

3 MODELS for All Jobs
Super powered 1-1/3 H.P. Model for heavy duty use
2/3 H.P. Model for medium duty needs
2/5 H.P. Model for lighter duty work

IDEAL INDUSTRIES, INC.
Sycamore, Illinois

IDEAL INDUSTRIES, Inc., 1032-D Park Avenue
Sycamore, Illinois

Please send me full catalog data on IDEAL Hand-Type Cleaner-Blowers.

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

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Another "First"... and a Bargain... from APPLETON®

JIC-100
Emergency Kit

Equip Each Crew Member with this Kit and Prove You Save Its Cost In a Few Weeks!

How often has one of *your* men had to leave a job to rush to an electrical wholesaler to pick up a ½" or ¾" junction switch or receptacle Unilet? Now, he can make up his own Unilet right on the job with a No. JIC-100 Emergency Kit. Remember, JIC . . . Just In Case . . . and you will sing its praises too, like so many of our other contractor friends who have written in to thank us for the inconvenience and trouble the JIC-100 Emergency Kit saved them. For complete details of various uses see Schedule ST. And, next time you order, ask about the JIC-100!

Sold Through Franchised Distributors Only

Emergency Kit Contents and Savings

5—JIC-B boxes worth.....	$1.80 each.....	$9.00
5—JIC-C blank covers worth.	.40 each.....	$2.00
10—HUB-50 HUBS worth.....	.65 each.....	$6.50
10—HUB-75 HUBS worth.....	.74 each.....	$7.40
Total Value		$24.90
You Pay Only		$18.90
YOU SAVE (on material cost alone)		**$6.00**

APPLETON ELECTRIC COMPANY
1701 Wellington Avenue • Chicago 13, Illinois

Also Manufacturers of:

▲ For more details circle NED-118 D9 on enclosed inquiry slip ▲

The Louis Allis

IMMERSIBLE MOTOR

Here's an electric motor that's designed for continuous operation immersed in a liquid! Works in vat or sump — or at the bottom of a pool, lake, or ocean. You save the cost of shafting and bearings required by conventional surface-mounted motors.

The new Louis Allis immersible motor is completely leak-tight . . . can operate in fresh or salt water, sewage, chemicals, abrasive cutting oils, etc. It's ideal for vertical or horizontal mounting on pumps, agitators, mixers, and special equipment. ¾ to 40 hp. Send for Bulletin No. 2300. The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wis.

SM-110

LOUIS ALLIS

▲ For more details circle NED-124 D9 on enclosed inquiry slip ▲

NOW Clearing brings to America the biggest lathe value EVER!

the new CLEARING-HARRISON

11", 13" and 16" Copying lathes are also available

The Clearing Harrison has taper roller bearings in the spindle; hardened and ground ways; precision hobbed, heat treated nickel-chrome gears and a host of features and accessories found only in the most carefully engineered machine tools.

These lathes are readily available from stock at Clearing. Complete stocks of repair parts and accessories are available through Clearing's three plants and at all service centers.

If you are looking for outstanding quality at a low initial cost—30% below the normal price range for machines of this type—be sure to investigate the Clearing-Harrison, the nation's greatest lathe value.

Coast to Coast Service Facilities

Clearing's nationwide facilities assure you of prompt service always. Replacement parts and accessories are stocked at Clearing and are available through all plants, at all service centers and thru all Clearing dealers.

Clearing, division of U. S. Industries, Inc., also manufactures the Clearing-Axelson line of engine lathes, power presses of all types, dies and special tooling, and special equipment for the aircraft and missiles industry.

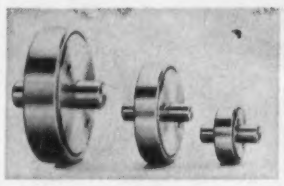
Write for Clearing-Harrison catalog.

USI Clearing Division of U. S. Industries, Inc. 6499 W. 65th Street • Chicago 38, Illinois

Plants in: Chicago, Ill. • Hamilton, Ohio • Los Angeles, Calif.

▲ For more details circle NED-125 D9 on enclosed inquiry slip ▲

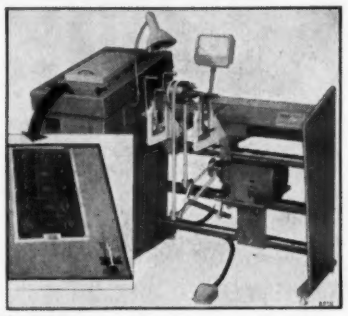
ROTARY POSITIONERS
control loads to 200 lb-in.



Three miniature rotary positioning controls accurately spot their loads in an infinite number of positions in a clockwise or counterclockwise direction. They are applicable as no-back devices, valve and potentiometer positioners, dial controls, clutches, and couplings. Zero backlash and low break-away torque are features. Both the ¾ and 1¼-in. diameter units are 5/16-in. deep and are rated for loads up to 50 oz-in. and 50 lb-in., respectively. The 1¾-in. diameter, ⅝-in. deep unit is for loads up to 200 lb-in. Rotating speeds up to 3800 rpm are feasible. Controls can have flange or set-screw mounting with through or interrupted shafts of ⅛, 3/16, ¼, 5/16, and ½-in. diameters. Actuators (supplied as integral components when requested) can be motor, manual, hydraulic, pneumatic, or solenoid type. Made by **Reid Metal Products, Inc.**, Reid Controls, 2021 N. Lincoln St., Burbank, Calif.

▲ For more details circle NED-126 D9 on enclosed inquiry slip ▲

BALANCING MACHINES
five models use strobe lamps



Three horizontal models with 4, 40, and 400-lb capacities and two vertical models with weight capacities of 20 and 75 lb comprise series of five new Bekomatic balancers. Magnitude of unbalance is shown by a large meter in front of the operator, calibrated to read directly in terms of correction procedure selected. A high intensity strobe lamp, which may be remotely positioned, identifies angular positions on top of the workpiece. All models have set-up controls on the left side of the cabinet. A single knob is the only operating control. Angle indications are readable as to where to remove or add weight. Made by **Bear Mfg. Co.**, Rock Island, Ill.

▲ For more details circle NED-127 D9 on enclosed inquiry slip ▲

Metal Belt Conveyor

M-H Standard Corp.—Features of Armorbelt unitized all-metal conveyors, available in steel, aluminum, and stainless steel, are explained in 8-page Bulletin 17. Engineering data giving horsepower requirements, speed range, and capacities up to 200 lb per running foot are listed. This smooth-surface conveyor is adaptable for a wide range of materials handling operations in all industries. Typical uses are shown.

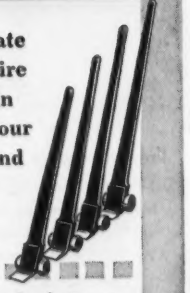
▲ For more details circle NED-128 D9 on enclosed inquiry slip ▲

The BECO

Super Lift LEVER DOLLY

- Why Pay More!
- Guaranteed
- Stronger
- Safer

- For immediate shipment, wire phone, or pin this ad to your letterhead and mail to:

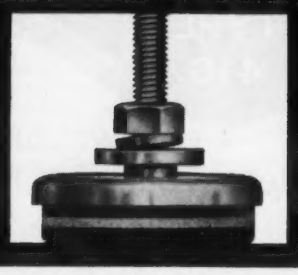


BECO - Bettendorf, Iowa

Four Models • Metal or Rubber Wheels

▲ For more details circle NED-129 D9 on enclosed inquiry slip ▲

NEW! UNISORB LEVEL-RITE 200 Machinery Mount



Here's an all-purpose, self-contained leveling mount ideal for light plant equipment and heavier office machines. Provides simple, fast and secure mounting, and precise leveling . . . plus maximum vibration control. Use them on such equipment as . . .

- Duplicating machines
- Business computers and machines
- Laboratory instruments and test equipment
- Small lathes, drill presses, punch presses
- Air conditioning units
- Pumps and compressors

Model LR 200 is precision leveling device, handles loadings up to 200 lbs. per unit.

Try a set, NOW! Send for bulletin and details on Money-Back Trial Offer. Also prices on sets for quantity installation.

UNISORB Division of The FELTERS Company | 224 South St., Boston 11, Massachusetts FE9-13

▲ For more details circle NED-130 D9 on enclosed inquiry slip ▲

METER ACIDS, ALKALIES, SOLUTIONS, OILS, WATER

Whatever the liquid, you can meter and save!

The operator, in the photo above, is pre-setting the desired quantity on a Rockwell *stainless steel* meter prior to delivery to the reactor in a polyvinyl production process. The meter mechanism automatically shuts off when the pre-set quantity is reached. It's simple and quick to batch and blend liquids this way . . . and without contamination, fumes or hazards.

Wherever liquids are stored, mixed or consumed you'll be ahead to measure with Rockwell industrial meters. There's a size, type and metal for practically every liquid. Write for Bulletins.

ROCKWELL MANUFACTURING COMPANY, PITTSBURGH 8, PA

▲ For more details circle NED-131 D9 on enclosed inquiry slip ▲

FLEXIBLE TEFLON® HOSE TO 2" I.D. WITH METAL BRAID BENDS TO 6¾" r. AT −65° F.!

Manufactured by an exclusive Titeflex process. This metal braid exterior with the convoluted inner Teflon core, reinforced with Fiberglas® tape, has tremendous strength coupled with finger-flexibility.

RETAINS ALL TEFLON'S REMARKABLE FEATURES: toughness, chemical inertness; light weight; corrosion resistance, temperature resistance from −65° to 400° F. TITEFLEX ADDS: Exclusive "zero motion" stainless steel braiding which minimizes chafing; positive attachment fittings of stainless steel; complete qualification testing; lengths to 25 ft.; diameters of ¾", 1", 1¼", 1½", 2", and soon, to 4". WRITE FOR BULLETIN 400.

titeflex, inc., hendee street, springfield, massachusetts

titeflex

▲ For more details circle NED-132 D9 on enclosed inquiry slip ▲

New model 36 SIMPLICITY CONVEYORS serve almost any conveying operation

The new Model 36 Conveyor is designed to meet the needs of manufacturers who do not require the capacity of heavy duty conveyors. Lightweight and compact, the low cost Model 36 is ideal for handling a great variety of light bulk materials with a minimum of maintenance.

The Model 36 makes provisions for any one of 5 different pan widths, from 4" to 12", and can be supplied in mild steel or (on special order) aluminum or stainless steel; with or without covers.

Stocked in 5' and 10' sections, units can be assembled up to 50' in length using only one drive assembly.

The Model 36 Conveyor is less than 14" in over-all height and requires only ¾ hp to 1½ hp motor (depending on the length of the conveyor).

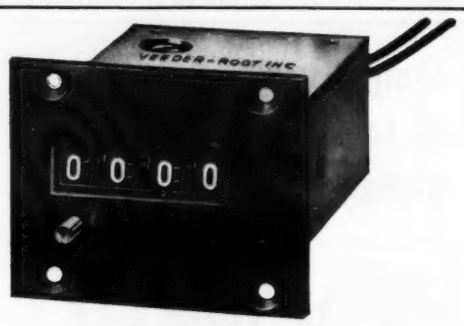
Write today for more information about the versatile, self-cleaning Model 36 Conveyor.

206

Simplicity TRADE MARK REGISTERED

ENGINEERING COMPANY • DURAND 15, MICH.

▲ For more details circle NED-133 D9 on enclosed inquiry slip ▲



ALL-NEW PANEL-MOUNTED HIGH SPEED ELECTRICAL COUNTER

Here's a quick review of the most newsworthy features of this all-new counter:

- Instant electric resetting.
- Push-button reset, either mechanically on the machine, or electrically from a distance.
- One button resets an entire panel.
- Panels can go right in your office.
- Counter is small, but figures are large.
- Speeds rated to 3,000 counts per minute.

EVERYONE CAN COUNT ON **Veeder-Root** INCORPORATED HARTFORD 2, CONNECTICUT

▲ For more details circle NED-134 D9 on enclosed inquiry slip ▲

prevent heat fatigue restore vigor

salt + vitamins

impregnated tablets B_1 B_2 and C

In hot weather, most people eat less — thus fail to supply the body with enough vitamins or salt.

Now — "Pep-Ups" with BOTH vital elements help your workers maintain full physical efficiency.

Hold down the Hot Weather Rise in Accident Rates with

"Pep-Up" The Original and Highest Quality IMPREGNATED SALT TABLETS

"Pep-Ups" with Vitamins	Cat. No.
500-tablet Dispenser	1414
1000-tablet Dispenser	1424
1500-tablet bulk Carton	1431

Each salt crystal impregnated to PREVENT SALT SICKNESS

Also available in Regular Impregnated without Vitamins; and Enteric Coated

Fully meet Federal Spec. SS-S-31F

with VITAMINS ADDED

In sanitary, expendable dispensers of durable Styrene AT NO EXTRA COST

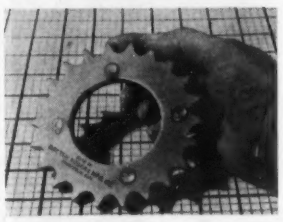
UNITED STATES SAFETY SERVICE CO.

DIV. E-4 1535 WALNUT ST., KANSAS CITY, MO.

Canada: Parmelee, Ltd., Toronto & Montreal

▲ For more details circle NED-135 D9 on enclosed inquiry slip ▲

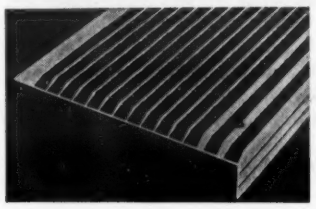
ROLLER CHAIN SPROCKETS in any bore size to fit needs



Roller chain plate sprockets are custom made to bore sizes according to individual requirements. Furnished to ASA standards with or without rust-proofing, the die-cut sprockets require no reworking. Units range in pitch from ¼ to 1 in. with teeth numbering from 300 to 24. Drill holes can be located to meet any requirement. Made by **Dayton Rogers Mfg. Co.**, 2824 13th Ave. S., Minneapolis 7, Minn.

▲ For more details circle NED-136 D9 on enclosed inquiry slip ▲

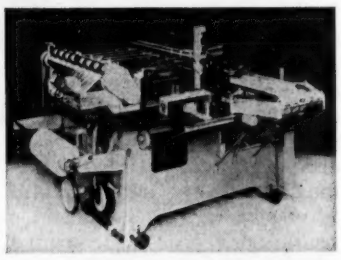
ALUMINUM TREADS abrasive surface is slipproof



An abrasive bonded in a heavy duty aluminum base provides the Super Stairmaster treads with a slipproof surface. Treads are 9 in. wide, have a beveled back, and fit all steps up to 13 in. wide. Lengths can be up to 12 ft as required. A 1⅛-in. nose extends over the step edge. They are fastened down with screws on wood steps or screws and expansion shields on masonry stairs. Made by **Wooster Products Inc.**, M-R Div., 1000 Spruce St., Wooster, Ohio.

▲ For more details circle NED-137 D9 on enclosed inquiry slip ▲

AUTOMATIC PACKAGE BUNDLER combines and wraps up to 12 units



Operating at speeds from 1 to 18 completed bundles per minute, Model 850 Texpaker automatically bundles and wraps 4, 6, 8, or 12 smaller packages into a single unit. It is designed for use by smaller companies or those with a diversified group of short-run products. Bundles are wrapped without use of bottom supports, and machine can also be used to wrap outsize packages, one at a time. As packages are fed manually or automatically to the machine, it cycles automatically to cut off right size sheet of paper, form folds, heat seal or glue the folds, and discharge the finished package. Package sizes handled can range from 5 to 12 in. long, 4 to 10 in. wide, and 1 to 8 in. high. Any type of paper, plain or imprinted, can be used. Made by **Battle Creek Packaging Machines, Inc.**, Merrill Park, Battle Creek, Mich.

▲ For more details circle NED-138 D9 on enclosed inquiry slip ▲

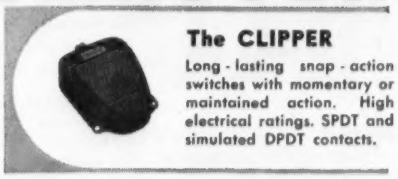
for a **HEAVY DUTY** switch to best fit your needs... pick a

The HERCULES Rugged safety-guarded cast-iron enclosure. Momentary or maintained. 40 Models to choose from.

The SENIOR Fully enclosed and hooded for protection against dirt and chips. AC and DC ratings.

LINEMASTER

AMERICA'S **FOOT SWITCH** LEADER



The CLIPPER Long-lasting snap-action switches with momentary or maintained action. High electrical ratings. SPDT and simulated DPDT contacts.

More than 75 different models of all kinds . . . momentary and maintained contact types, 2-in-1 switches, single, double and triple pole. Light, medium and heavy duty versions, with and without safety guards.

Write for complete catalog or let us quote on your special switch requirements.

LINEMASTER SWITCH CORP.

424 Woodstock Terrace

WOODSTOCK, CONNECTICUT

▲ For more details circle NED-139 D9 on enclosed inquiry slip ▲

Safety-conscious Plant Engineers specify PROTO'S CLIK-STOP®

With Proto Clik-Stop adjustable wrenches, the user cannot forget to lock the wrench because, in use, the Clik-Stop's Golden Knurl automatically locks the exact jaw opening.

The combination of safety features found only in the Clik-Stop design is the reason why more and more utility and industrial companies are testing and adopting Clik-Stop wrenches as standard equipment where the personal safety of their tool users is important.

Clik-Stop features:

- Automatic safety locking for all jaw openings.
- Forged in special analysis alloy steel.
- I-beam construction. No extra bulk.
- Deep wrench mouth for snug fit, better, safer leverage.
- Meets strict Federal Specifications.
- All sizes: 4", 6", 8", 10", 12", 16", 20"
- Black Industrial or heavy Chrome finish.

PROTO TOOLS PROFESSIONAL QUALITY TOOLS

2223 Santa Fe Avenue, Los Angeles 54, California

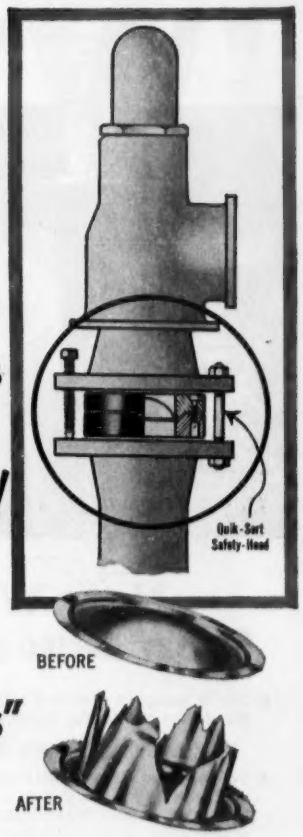
523 Allen Street, Jamestown, New York

1723 Oxford East, London, Ontario, Canada

DIVISION OF

▲ For more details circle NED-140 D9 on enclosed inquiry slip ▲

You Can Prevent These Three Relief Valve Problems With a BS&B Quik-Sert *Safety Head!*



1. Leakage
2. Corrosion
3. "Freeze-ups"

The BS&B Quik-Sert Safety Head isolates the relief valve from the product under pressure. Mounted under the valve inlet, it is "bottle tight" until overpressure reaches the rated pressure of the preformed metal rupture disc.

The Quik-Sert Safety Head flange assembly is located inside the bolting of companion flanges. Easy insertion and removal is accomplished through the use of jack screws.

A BS&B Quik-Sert Safety Head Under The Relief Valve Gives You These Advantages

- Stops product loss at normal operating pressures
- Assures proper valve function at set pressure
- Lowers maintenance costs
- Reduces shutdown time

BS&B engineers will be glad to evaluate your pressure system for proper applications of the Quik-Sert Safety Head.

Write, wire or phone...

BLACK, SIVALLS & BRYSON, INC.

Safety Head Division, Dept. 2-GD4
7500 East 12th Street,
Kansas City 26, Missouri
Telephone: BEnton 1-7200

▲ For more details circle NED-141 D9 on enclosed inquiry slip ▲

NEW METAL EDGE FILTER CATALOG...

For filtration from 25 microns up with almost no maintenance at all, you can select Purolator metal edge filters made of all common metals and alloys with flows from 1 to 1000 GPM. They will withstand temperature extremes from −260° F. to 1200° F. and differential pressure to 125 PSI. Their metal edge elements provide a thin-walled, rugged medium with a lower initial pressure drop, higher flow and complete utilization of surface area. They can be cleaned almost indefinitely – with knife blades (manual or motorized), or by backwashing. Write for *free* catalog today to:

PUROLATOR
PRODUCTS, INC.
RAHWAY, NEW JERSEY AND TORONTO, CANADA

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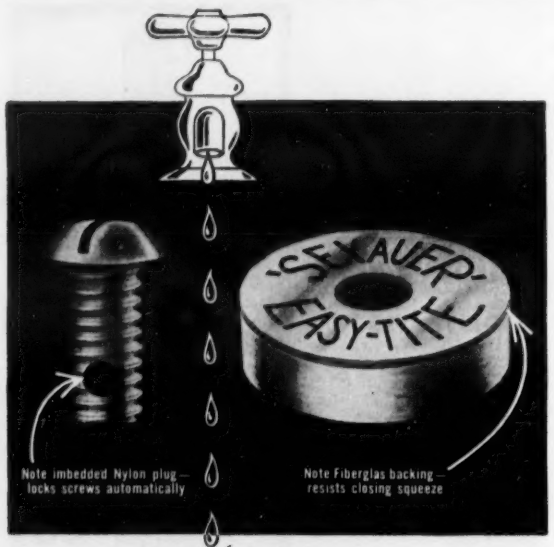


New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

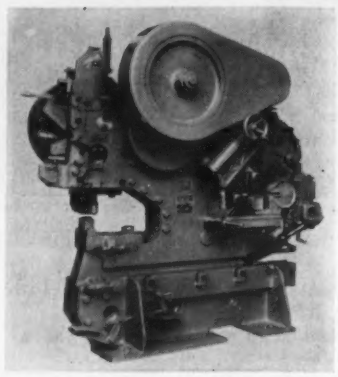
A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-49
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title _____
Organization _____
Bus. Address _____
City _____ Zone _____ State _____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle **NED-143 D9** on enclosed inquiry slip ▲

PUNCH-SHEAR-COPER rapidly cuts high tensile steels



Versatile Steelmaster punching, shearing, coping, mitering, and notching machine can perform two operations at one time, with one man punching and one man shearing. Tool changes are not required to change operations. Machine will cut mild steel or stock up to 180,000 psi tensile strength. Model 16 (illustrated), one of 70 production models for combination punching and shearing, has a 60-ton capacity, deep throat, and 5-hp motor. Price, including tooling, is $6195. Other models with punching pressures from 25 to 110 tons are priced from $2996 to $14,875. Low priced, hand-lever operated models for metal and other cutting range from $10.50. Available from **Pathex Ltd.**, 1103 Liberty Bank Bldg., Buffalo 2, N. Y.

▲ For more details circle **NED-144 D9** on enclosed inquiry slip ▲

DIRECT-PROCESS DUPLICATOR makes 120 copies per minute

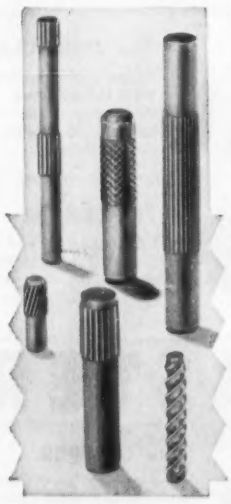
Sitdown operation is possible with the 9D35 direct-process spirit duplicator which is controlled for correct slope by two-way adjustable foot pedals. Unit has a "no pour" fluid supply with a visible fluid gage and a continuous feed lever. It is capable of making 120 copies per min and handles forms from 3 x 5 x 9 x 14 in. Material typed, drawn, written, or traced on Ditto masters can be printed in one to five colors in one operation. Fluid and pressure controls, drum registration adjustment, counter, and a slotted drum which is easily converted to magnetic drum for systems requiring blockouts are also provided. Made by **Ditto, Inc.**, 6800 N. McCormick Rd., Chicago 45, Ill.

▲ For more details circle **NED-145 D9** on enclosed inquiry slip ▲

Gearmotors

Louis Allis Co.—Right angle gearmotors in ratings from 1/3 to 30 hp and with output speeds of 23 to 280 rpm are discussed in 4-page Bulletin 3050. Open, enclosed, and explosionproof types are made with NEMA C-flange and with integral construction to conserve mounting space.

▲ For more details circle **NED-146 D9** on enclosed inquiry slip ▲



CUT FASTENING COSTS with **HASSALL THREADED PINS**

- Low cost
- To your specifications
- Roll threaded for greater strength
- Large or small quantities
- Close tolerances
- Any finish • All metals

We are saving many of our customers from 20% to 50% on their special small threaded pins. These threaded pins may be made to your specifications in a wide variety of metals and finishes. Large or small runs are economical.

Let HASSALL quote on your small threaded pins . . . we can show you real savings.

Other HASSALL Specials

- Rivets
- Nails
- Studs
- Hinge Pins
- Screws
- Drive Screws
- Machine Screws
- Fasteners
- Small parts

WRITE FOR CATALOG . . . . . with it we will send you our popular decimal equivalent wall chart.
John Hassall, Inc., Box 2178 Westbury, L. I., N. Y.

HASSALL

SINCE 1850 — NAILS, RIVETS, SCREWS AND OTHER COLD-HEADED FASTENERS AND SPECIALTIES

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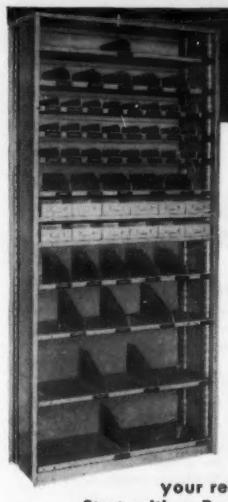

NEW FLEXIBILITY... NEW ECONOMY...

F-G-M®

QUICK-BILT
PARTS BINS

SHELVES SLIDE IN AND OUT... CAN BE RAISED OR LOWERED EVEN WHEN LOADED . . . WITHOUT REMOVING DIVIDERS!

Build parts bins to fit your own needs. F-G-M "Quick-Bilt" Shelving enables you to "do-it-yourself" . . . to build exactly to your requirements.

Start with a Basic Unit: base, top shelf, two sides and back. Slide the desired number of shelves in at the heights you want. Snap on the size dividers you need at the locations selected. That's all. No tools . . . no expensive set-up time.

A number of accessories are available to complete your storage set-up. Write for Folder No. 716.

The FRICK-GALLAGHER Mfg. Co.
112 S. MICHIGAN AVENUE
WELLSTON, OHIO
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BONDERIZED STEEL EQUIPMENT FOR EVERY STORAGE NEED

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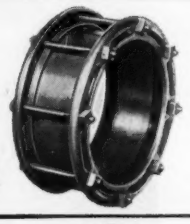
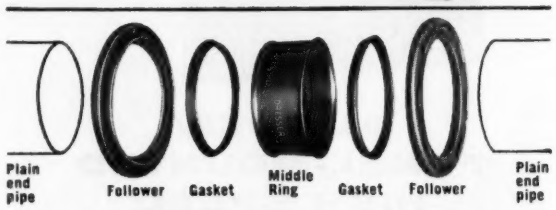
Simple way to solve tough piping problems





Slip follower rings and gaskets on pipe ends. Place middle ring over pipe end and stab pipe ends together. Slide gaskets under middle ring flares and followers. Insert bolts and tighten!

Dresser® Couplings solve piping problems of cramped quarters, vibration and stresses, or pipe misalignment . . . PERMANENTLY and ECONOMICALLY! Style 38 Coupling, designed for ⅜" to 72" pipes, makes a non-rigid, tight joint that allows up to 6° pipe deflection. Fast to install, easily dismantled. Booklet No. 531 gives many examples of typical, Dresser-solved piping problems.

Bradford, Pennsylvania
Chicago
Houston
New York
S. San Francisco
Toronto & Calgary

DRESSER MANUFACTURING DIVISION

▲ For more details circle **NED-149 D9** on enclosed inquiry slip ▲

Do you screen, sift or grade dry materials?

Get the facts on BAR-NUN *Rotary* SIFTERS

Features include: Rapid, accurate separations, achieved by complete rotary motion . . . big capacity in limited floor space . . . dust-tight, totally enclosed construction . . . easy cleaning . . . optional stainless steel product zone . . . all-mechanical heavy-duty construction. Available with from 2 to 78 square feet of screen area—for single or multiple separations of dry materials, as fine as 325 mesh. Here's real screening efficiency, economy, durability.

Details in 6-page Bulletin 503

FEEDING · MIXING · SIFTING · GRINDING · WEIGHING · PACKING and PACKAGING EQUIPMENT FOR THE PROCESS INDUSTRIES

B. F. GUMP CO.
Engineers and Manufacturers since 1872
1336 S. Cicero Avenue, Chicago 50, Illinois

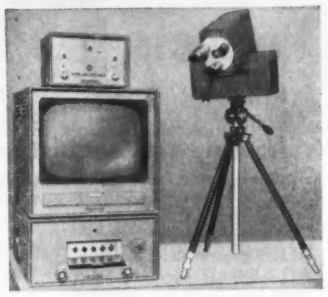
▲ For more details circle **NED-150 D9** on enclosed inquiry slip ▲

How to get EYES in the Back of Your Head

...behind a machine, up on the third floor, in hazardous or hitherto impossible situations, underneath a locomotive, inside a combustion chamber, up on a roof, at a guard gate. These and many other problems can be solved with the versatile new

ITT Closed Circuit TV Systems

Feature a new improved vidicon camera with an entirely electronic light compensator (no moving parts), monitor, control unit, special housings. Cost is surprisingly low. Systems tailored to requirements. Bulletins and other data on request.



Industrial Products Division
INTERNATIONAL TELEPHONE AND TELEGRAPH CORP.
15191 Bledsoe Street, San Fernando, California — EMpire 7-6161

▲ For more details circle NED-151 D9 on enclosed inquiry slip ▲

SEALING DOMESTIC APPLIANCES IS A REAL CHALLENGE, TOO!

Soapy water, detergents, bones, grit and lint combine to make appliances a hard-to-handle sealing problem. Add very limited space factor, and you've got a real set of conditions on your hands. That's why...as one design engineer to another... we urge you to let us work with you. Tell us about your requirements or request illustrated Bulletin S-204-3. Crane Packing Company, 6411 Oakton St., Morton Grove, Illinois, (Chicago Suburb).

John Crane — MECHANICAL PACKINGS · SHAFT SEALS · TEFLON PRODUCTS · LAPPING MACHINES · THREAD COMPOUNDS

CRANE PACKING COMPANY

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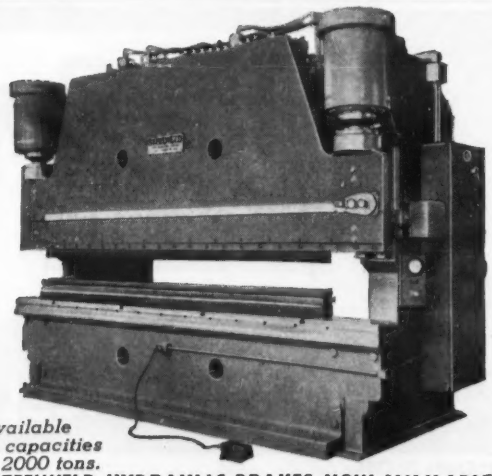


Available in capacities to 2000 tons.

STEELWELD HYDRAULIC BRAKES NOW AVAILABLE

A complete line of Steelweld Hydraulic Press Brakes with the finest features that assure accuracy and outstanding performance is now available by one of the oldest and most experienced press brake builders. The new hydraulic line supplements but does not supplant Steelweld mechanical press brakes.

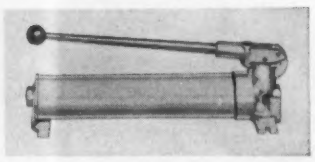
Get the details on versatile feature-packed Steelweld Hydraulic Press Brakes. Ask for Catalog No. 2024A.

THE CLEVELAND CRANE & ENGINEERING CO.
6670 EAST 281st STREET, WICKLIFFE, OHIO

STEELWELD *HYDRAULIC* PRESS BRAKES

▲ For more details circle NED-153 D9 on enclosed inquiry slip ▲

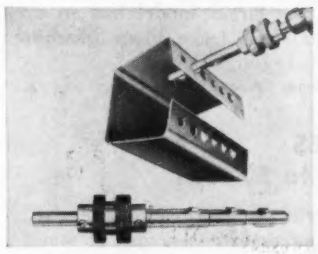
HYDRAULIC HAND PUMP provides 10,000 psi pressure



Designed to power common gear or bearing pulling tools, this manually - operated, two - speed hydraulic pump provides up to 10,000-psi pressure at start of pull. When gear or bearing breaks loose, speed increases and pressure drops automatically. The 26½-lb, dual-piston pump has 140 cu in. oil capacity and will operate all Power Twin center-hole hydraulic rams. Outlet is a ⅜-in. female pipe thread hose. Made by **Owatonna Tool Co.**, 436 N. Cedar St., Owatonna, Minn.

▲ For more details circle NED-154 D9 on enclosed inquiry slip ▲

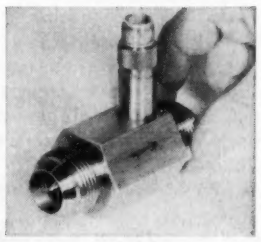
HOLE DEBURRING TOOL handles three hole sizes



The front and back side of three different hole diameters can be deburred with this deburring tool. It has three separate pilot diameters and a cutter blade with three correspondingly positioned cutting heads. Tool is used in a portable drill. With its retractable cutting blades, tool can be used to finish holes where one or more surfaces are inaccessible or where both front and back surfaces must be finished from a single entry. Three sizes cover nine hole diameters from ¼ to 1¾ in. Made by **Nobur Mfg. Co.**, 6860 Farmdale Ave., North Hollywood, Calif.

▲ For more details circle NED-155 D9 on enclosed inquiry slip ▲

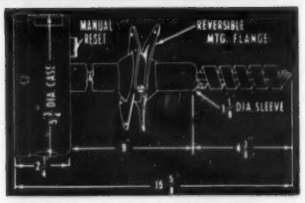
LIQUID FLOWMETERS accurate to ±½ per cent at 5000 psi



Redesigned Cox Type 20 stainless turbine flowmeters for jet fuel, gasoline, oil, water, and acids measure liquid flow accurately within ±½ per cent at pressures to 5000 psi and temperatures from −445 to 1000° F. Pressure drop is less than 5 psi. Linear flow ranges are available up to 35:1, depending on meter size. Improved response time of 3 milliseconds is due to new single-bearing design which lowers inertia and friction. These smaller, lighter models can be disassembled and reassembled with no effect on calibration. Sizes range from 8-4 to 32 with AN thread or ASA flange connections. Group covers a 0.25 to 250-gpm flow range. Made by **George L. Nankervis Co.**, 15400 Fullerton Ave., Detroit 27, Mich.

▲ For more details circle NED-156 D9 on enclosed inquiry slip ▲

MERCOID HIGH TEMPERATURE LIMIT CONTROL — FM APPROVED



Mercoid Type MX-51R is an adjustable indicating type high temperature limit control actuated by a coiled bimetal element to result in a normally closed mercury (tube type) switch opening in event the supervised temperature reaches the preset limit point. An externally operated manual reset knob is arranged to reset the mercury switch after high temperature operation and normal temperature restoration.

Type MX-51R: SP-ST circuit opens automatically at the preset control setting on temperature rise. Manual reset provided to restore switch to closed position after temperature falls.

OPERATING RANGE
Adjustable: 50 to 650°F.
Minimum Differential: 20°F.

WRITE FOR BULLETIN SEB-51

THE MERCOID CORPORATION
4211 Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-157 D9 on enclosed inquiry slip ▲

2548

DIEMAKERS! this **DIE-PART PORTELVATOR®** (OR AN ENGINEERED VARIANT) will speed your work and ease your "handling." Top plate raises and lowers for fitting operations and rotates 360° to give easy access to die.

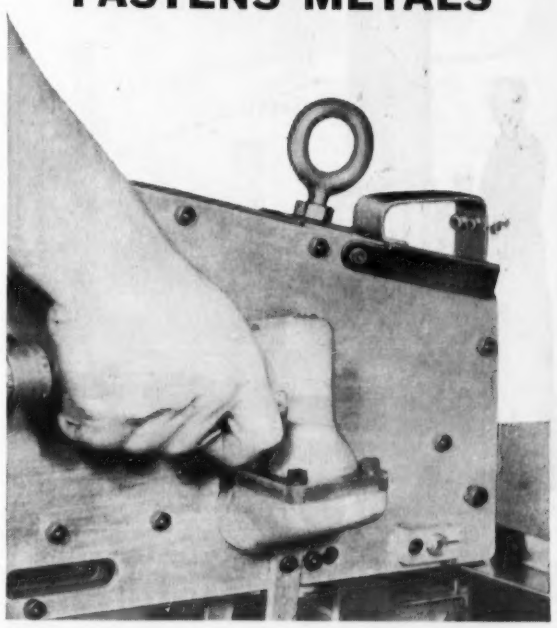
Write for our FREE Bulletin No. 2548. It gives full details.

THE HAMILTON TOOL COMPANY · 901 HANOVER STREET
HAMILTON · OHIO · U. S. A.

▲ For more details circle NED-158 D9 on enclosed inquiry slip ▲

NEW!

PORTABLE STAPLER FASTENS METALS



BOSTITCH P10 AIR-DRIVEN STAPLING PLIER

This powerful, portable air-driven stapler goes where the work is. It fastens hard-to-penetrate materials on an assembly line basis.

There's no pre-drilling or other preparation. The operator simply positions the P10 on the work, and presses the thumb-tip trigger on the handle. It's possible to drive as many as 50 high-tensile staples a minute on some jobs. No special operator training is required.

The P10 fastens a maximum total combined thickness of approximately .080" steel, depending on hardness. Fastens other materials up to ¼" thickness, depending on their nature. Fastens non-brittle materials like-to-like or in combination securely and permanently at surprisingly low cost.

FREE INFORMATION. NO OBLIGATION. Let us send you full technical data on the Bostitch P10-AD. Simply circle our number on the reader service card in this publication. For immediate answers to specific questions on your application, look up "Bostitch" in your phone book or write to us direct at 684 Briggs Drive, East Greenwich, Rhode Island.

Fasten it better and faster with

BOSTITCH® STAPLERS AND STAPLES

▲ For more details circle NED-159 D9 on enclosed inquiry slip ▲

CAR PULLER

MORE QUALITY FEATURES

- Greater safety factor for personnel . . . no rope to snub with wire rope car puller.
- Save time, labor and money . . . one man can quickly and easily spot several fully loaded box cars.
- A type and size to fit your exact requirements.
- Rugged construction for trouble free service.
- Stocked for immediate delivery.

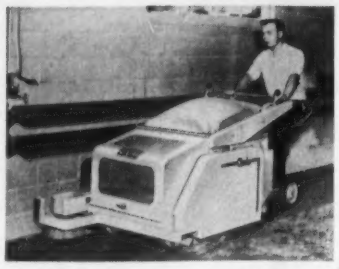
WRITE FOR BULLETIN 753

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS

PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

▲ For more details circle NED-160 D9 on enclosed inquiry slip ▲

POWER SWEEPERS
two models are 27 and 36 in. wide

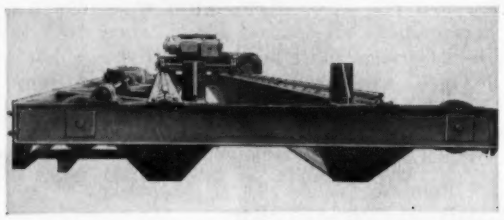


All types of debris are picked up in indoor or outdoor operation by two power floor sweeper models. Both have a forward - stop - reverse handle bar which simplifies operation. The rotary broom can be adjusted to 23 different heights to compensate for wear, and an optional side broom sweeps up to walls. Other features are easily detached and emptied debris hopper and dust bag, neoprene aprons which enclose broom chamber to confine dust, and heavy duty belt drive. Model CS-27 is 27-in. wide and will sweep to 35,000 sq ft per hour. Model CS-36 is 36 in. wide and covers up to 50,000 sq ft hourly. Both models travel up to 3 mph and the larger model has an optional riding sulky. Made by **Clarke Floor Machine Co.**, 30 E. Clay Ave., Muskegon, Mich.

▲ For more details circle NED-162 D9 on enclosed inquiry slip ▲

OVERHEAD CRANES
for capacities to 20 tons

Redesigned N-TRMD Series of overhead cranes with up to 20-ton capacities makes extensive use of standardized components and interchangeable parts. Made



for spans to 60 ft, cranes have heavy-duty hoists, heavy-duty steel wheels on bridge and trolley, welded jig-assembled end trucks, precision ball and roller bearings, large gusset plates at end trucks, and outrigger machinery girder construction. Fluid coupled bridge and trolley drives, magnetic pushbutton control, and magnetic bridge brake are also featured. Made by **Borg-Warner Industrial Cranes**, 1536 S. Paulina St., Chicago 8, Ill.

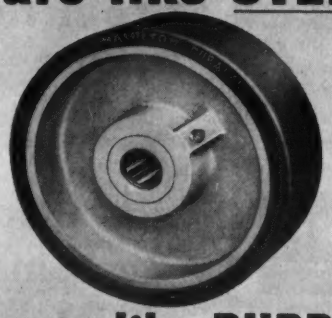
▲ For more details circle NED-163 D9 on enclosed inquiry slip ▲

Nut Runners & Screwdrivers

Complete specifications and details of Apex nut running, screwdriving, and miscellaneous production and fastening tools are contained in four separate catalogs totaling 206 pages. Ask for Catalog 30-A on nut running tools to 5/8-in. drive; 30-B, nut running tools to 3½-in. drive; 30-C, screwdriving tools; 30-D, Miscellaneous tools. Available only by writing Apex Machine & Tool Co., 1046 S. Patterson Blvd., Dayton 2, Ohio.

▲ For more details circle NED-164 D9 on enclosed inquiry slip ▲

Wears like STEEL!



Protects like RUBBER!

NEW DURALAST WHEEL BY HAMILTON OUTWEARS RUBBER 5 to 1! . . . Saves up to 500% in tire replacement costs on trucks and trailers!

TOUGH, synthetic urethane treads resist abrasion, chunking and tearing. Chemically inert . . . oil, grease, water and brine resistant!

RESILIENT, noiseless, non-marking! DURALAST Wheels roll easily under loads double those permitted by rubber. Withstand severe shocks . . . resist formation of "flat spots" under static load!

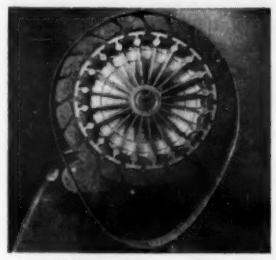
COMPLETE floor protection! Ends wheel damage to factory floor.

AVAILABLE for replacement on present equipment, or for new trucks and casters. Wheel sizes from 4" to 12" diameter . . . straight or tapered roller bearings, or plain bore.

WRITE NOW FOR FREE BULLETIN!

THE Hamilton CASTER & MFG. CO.
1762 Dixie Highway, Hamilton, Ohio

▲ For more details circle NED-166 D9 on enclosed inquiry slip ▲



6" diameter band on 5" diameter wheel with wheel at rest.

Same wheel and band, showing expansion feature of Flexcore wheel taking up more than normal band stretch.

FLEXCORE WHEELS END ABRASIVE WASTE

Flexcore expanding wheels expand enough to "take up" any band stretch or extra length resulting from normal manufacturing tolerances. Oversize bands are held on tightly, and waste due to bands "walking off" is eliminated. *In grinding and polishing operations, this expansion feature can reduce abrasive consumption by as much as 33%.*

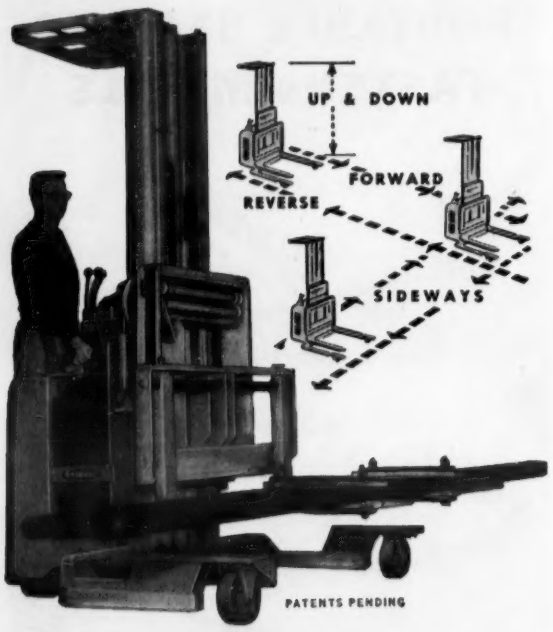
Flexcore expanding wheels come in sizes from 1" to 5" and widths to 4". Write for Free Trial to—

NU-MATIC GRINDERS, INC.
8224 Carnegie Avenue, Cleveland 3, Ohio • RA. 1-0980
DETROIT—BR. 3-0165 CHICAGO—TU. 9-4300 NEW YORK—BA. 7-0196
CANADIAN DISTRIBUTOR—Wm. Orlick, Ltd., Hamilton, Ontario

▲ For more details circle NED-167 D9 on enclosed inquiry slip ▲

RAYMOND

4-D ELECTRIC TRUCK



move LONG material in NARROW aisles

Bar stock, rods, sheet steel, pipe, tubing, assemblies, carpeting, or any long material is easily handled by the Raymond 4-D Electric Truck . . . up or down . . . forwards . . . backwards . . . or sideways down a narrow aisle. You have to see it to believe it.

MAIL COUPON TODAY

The RAYMOND CORPORATION
4159 Madison St., Greene, New York

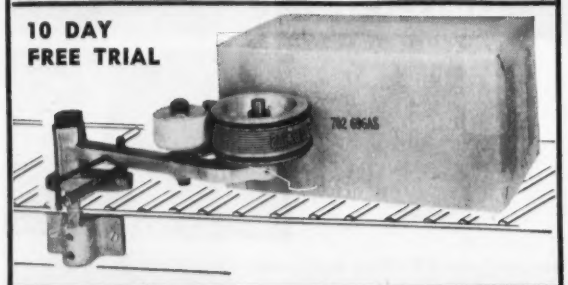
Please send Bulletin describing your amazing 4-D Electric Truck

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-161 D9 on enclosed inquiry slip ▲

NEW LEADER IN CONVEYOR LINE MARKING

10 DAY FREE TRIAL



THE PRYOR ROCKET

- Trouble free, non-stop "friction" operation—self inking
- Interchangeable rubber type. Easy-to-read impressions. Quick copy changes
- Surprising low cost—saves expensive hand marking or large inventories of pre-printed cartons
- New simplified design—easier disassembly and inking. Rocket 1 prints up to 1 inch height. Rocket 2 prints up to 2 in. height
- Durable aluminum construction

Write for FREE trial—specify model

IMPRINTS CODING, DATES, DATA ON:
- CARTONS
- BAGS
- ROLLS
- CANS
- DRUMS

etc. etc.

PRYOR MARKING PRODUCTS
434 S. Wabash Ave., Chicago 4, Ill.

▲ For more details circle NED-165 D9 on enclosed inquiry slip ▲

POR-ROK
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

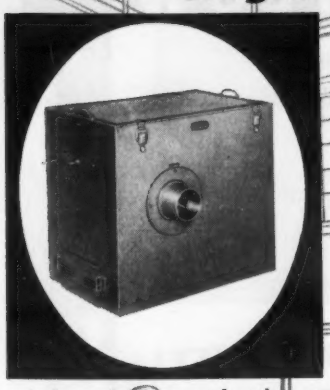
THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

▲ For more details circle NED-168 D9 on enclosed inquiry slip ▲

DUSTKOP "520"

designed to collect dust from single machines

portable—easily installed



DUSTKOP STOPS DUST

Self-contained Dustkop models, like the "520," are practical and effective in collecting dust from single machines. They're designed specifically for service with surface grinders, tool and cutter grinders, offhand grinders, buffers and other small wheel equipment. These units are also easy to install — are actually portable — and very economical to operate.

Write for illustrated literature

46 models to choose from!

NEW DUSTKOP AUTO SHAKER shakes filters AUTOMATICALLY

AGET manufacturing company

1396 E. Church Street, Adrian, Michigan

ask for details

▲ For more details circle NED-169 D9 on enclosed inquiry slip ▲

PROPELLAIR®

...built to solve your "heavy duty" ventilating problems

...mount in any position

Heavy duty Propellair Type "CD" fans are designed for versatility and rugged duty. They can be mounted in side walls, roof ventilators, hoods, ducts and machinery in any position you require. They are ideal for "tough" ventilating jobs like removing heat, moisture, smoke and dust laden air. You get greater efficiency and quieter operation, because the exclusive venturi entrance ring prevents wasteful recirculation. The rigid, cast aluminum, precision balanced air-foil propeller runs quieter and retains its clean aerodynamic characteristics at all operating pressures. Powered by dependable Robbins & Myers Motors of any design you need, they are covered by a single name-plate guarantee. Available in sizes from 12" to 60" for from 1020 to 85000 CFM air delivery. Let Propellair engineers survey your needs and recommend the correct ventilating equipment.

WRITE FOR BULLETIN NO. 690-N

R&M PROPELLAIR®

DIV. OF ROBBINS AND MYERS, INC. SPRINGFIELD, OHIO

Certified Ratings PFMA

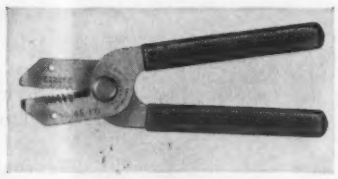
MAN COOLER SKY-BLAST VANEAXIAL TUBEAXIAL EXTENDED SHAFT

MOVING AIR IS OUR BUSINESS

▲ For more details circle NED-170 D9 on enclosed inquiry slip ▲

WIRE STRIPPER

strips No. 16 through 26 sizes

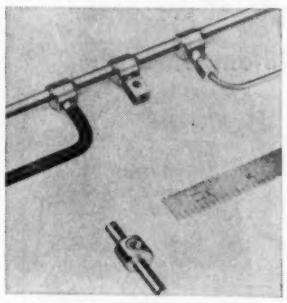


Hardened steel T-6 wire stripping tool has six individual openings for stripping wires from No. 16 through 26. Suitable for the production or assembly worker handling the smaller gage wires, tool requires no adjustment. Holes on either side of stripping head facilitate looping stripped end of wire for screw-type terminals. Wide, sharp cutting edge also makes an efficient wire cutter. Plastic grips add to handling comfort of the 6-in. tool. Made by **Ideal Industries, Inc.**, 1032 Park Ave., Sycamore, Ill.

▲ For more details circle NED-171 D9 on enclosed inquiry slip ▲

MINIATURE TUBE FITTING

for 1/4 and 5/16-in. OD tubing

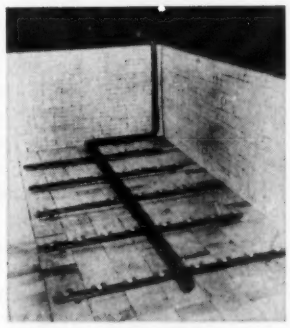


Cost of supplying air or fluids to inaccessible spots is reduced with Minimatic solder-type tube outlets. Fitting is sweat-soldered into position, then hole is drilled or punctured in the copper tubing through the 10-32 port. Clippard miniature parts or fittings can then be screwed in. Units can also be used to sweat-join additional pieces of tubing together, or where tubing must be cut to position outlet. Fittings for 1/4 and 5/16-in. OD tubing are priced at $1.45 per package of five. Made by **Clippard Instrument Laboratory, Inc.**, 7390-R Colerain Rd., Cincinnati 39, Ohio.

▲ For more details circle NED-172 D9 on enclosed inquiry slip ▲

STEAM JET AGITATOR

assures pickling bath circulation



Efficient heating and uniform circulation of acid vertically through the work loads is provided by the E4 steam jet agitator intended for batch pickling of sheets, coiled rods, wire, and other products. Equipment consists of a tree - shaped arrangement of heavy walled lead piping in the pickling tank. Vertical section connects to 80-psi steam line. Nocordal impervious graphite nozzles are set in the cross arms at properly spaced intervals. Piping is available in various lengths and widths for any batch pickling tank. Offered by **Heil Process Equipment Corp.**, 12901 Elmwood Ave., Cleveland 11, Ohio.

▲ For more details circle NED-173 D9 on enclosed inquiry slip ▲

Allflex

STAINLESS STEEL "MNH" FLEXIBLE CONNECTORS

A NEW stock answer to pipeline problems caused by rigid connections.

- Dampens Vibration
- Compensates for Misalignment
- Permits Offset Movement
- Absorbs Expansion

With ALLFLEX Stainless Steel Connectors you get:

- Corrosion Resistance ... plus
- Pressure Resistance ... plus
- Heat Resistance ... plus
- Flexibility

Also available in Monel, Bronze and Steel.

These Stock Sizes

1/4" 3/8" 1/2" 3/4" 1" 1 1/4" 1 1/2" 2"

In These Stock Lengths

12" 18" 24" 30" 36" 48" 60"

... also available in all standard sizes, in any required length, with any standard or special fitting or flange. Full engineering information on ALLFLEX Stainless Steel Hose can be found in: Chemical Engineering Catalog, pages 153 to 156; Refinery Catalog, pages 169 to 172. (Allied A, B, C, D.) ALLFLEX Standard Stainless Steel Connectors are sold through leading Industrial Distributors. If not available locally—THEY CAN BE SHIPPED FROM FACTORY SAME DAY ORDER IS RECEIVED.

Write Today for Fact-Filled Allflex Bulletin

ALLIED METAL HOSE CO.

3788 Ninth Street • Long Island City 1, N. Y. • STillwell 4-5173

▲ For more details circle NED-174 D9 on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC. 192 MILL STREET ROCHESTER 14, N.Y.

▲ For more details circle NED-175 D9 on enclosed inquiry slip ▲

The ROTARY UNION* . . . gives plus values

Besides giving exceptionally long, leak-proof service, the ROTARY UNION is flexible. Shown here is the ROTARY UNION and its built-in flexible hose providing uniform and effective cooling on a "STANAT" High Speed Wire Flattening Mill . . . plus the ability to automatically adjust to a wide variety of roll settings.

The ROTARY UNION is available in over 40 types and sizes for heating or cooling any rotating equipment . . . such as rubber and plastic machinery, flake rolls, grain dryers, ball mills, calenders, printing and coating machinery in pipe sizes from 1/4" through 3". For details on this self-aligning, self-adjusting, ball bearing mechanical seal ROTARY UNION, write for Bulletin 700D.

*Trade Name Patented

"WHERE Good Connections COUNT"

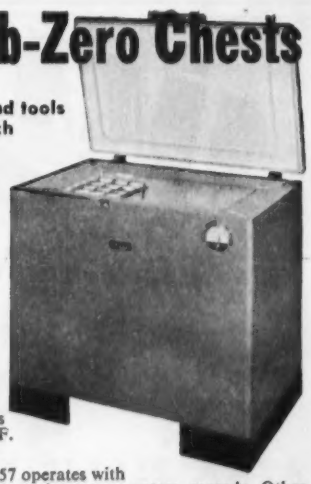
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.

Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles New York—Providence—Hamilton, Ont.—Montreal—Toronto

▲ For more details circle NED-176 D9 on enclosed inquiry slip ▲

REVCO Sub-Zero Chests

- for shrink fits
- for seasoning gauges and tools
- for testing
- for research
- for processing to −140°



Model RSZ503 Rivet Cooler (shown) equipped with 90 rivet canisters, temperatures to −30° F. 110V, 60 cycle, single phase.

Model SZH153 with temperatures to −95° F. 110V; 60 cycle, single phase.

Model SZH653, larger capacity, temperatures to −85° F. 110V, 60 cycle, single phase.

Model SZHC657. Same capacity as SZH653 but attains temperature as low as −140° F. 220V, 60 cycle, single phase.

Refrigeration: Model SZHC657 operates with 3 Tecumseh hermetic compressors in a two system cascade. Other Sub-Zeros use 2 hermetics in a two stage system. Rivet Cooler operates with single hermetic unit. All models equipped with efficient fan-cooled condensers—no liquid coolant required. *Write Today for Full Specifications and Prices.*

Description	Model	Cu.Ft.	Temp. Range Rm. 70°	Temp. Range Rm. 110°	Outside Dim. L	Outside Dim. W	Outside Dim. H	Inside Dim. L	Inside Dim. W	Inside Dim. H
Sub-Zero	SZH153	1.5	−95° F.	−85° F.	42"	28"	42¼"	23"	9"	12½"
Sub-Zero	SZH653	6.5	−85° F.	−75° F.	60"	28"	42¼"	47"	15"	16"
Sub-Zero	SZHC657	6.5	−140° F.	−125° F.	60"	28"	42¼"	47"	15"	16"
Rivet Cooler	RSZ503	5.0	−30° F.	−20° F.	42"	28"	41"	30"	16"	18"

REVCO, Inc.

Setting Trends in Refrigeration since 1938 Deerfield, Michigan

▲ For more details circle NED-177 D9 on enclosed inquiry slip ▲

NOW! custom made V-BELTS in any length with

ALLIGATOR V-BELT FASTENERS

SIMPLE AS A-B-C!
When an endless belt breaks, merely cut off the required length of belt from a roll of Open End V-Belting, apply an Alligator V-Fastener and the machine is ready to "roll" again.

DESIGN NEW DRIVES WITH THIS IN MIND
V-belts can now be made to any length . . . center distances are no problem . . . eliminate need for special length belts.

ONE STRONG JOINT
Permits fast and easy installation on all types of drives, particularly fixed center drives and drives with outboard bearings.

SOLD IN COMPLETE PACKAGE KITS 5 SIZES! Order from your distributor.

SEND FOR NEW BULLETIN ON CUSTOM MADE V-BELTS #V-227

"FOR THE SPLICE OF A LIFETIME"

Flexible STEEL LACING COMPANY

4664 LEXINGTON ST. • CHICAGO 44, ILLINOIS

▲ For more details circle NED-178 D9 on enclosed inquiry slip ▲

FREE INFORMATION ABOUT NEW IMPROVED SIGNODE RETAINING STRIPS

Free 8½" x 11" sample of Superior Retaining Strip moisture resistant, laminated, reinforced Kraft paper.

SIGNODE Retaining Strips save you money these ways:

- Reduce (most often stop) damage to cargo at car doorways
- Reduce dunnage by 20 to 40 pounds over old-fashioned door barricades
- Save on storage, handling. Come in clean, compact rolls, less than 6" diameter, of 50 strips
- Fast and easy installation speeds preparation for loading
- Strips at loading door tensioned and sealed from *outside*

Data Sheet 201S includes sample as noted above. Send now for yours.

SIGNODE STEEL STRAPPING CO.
Dept. RS, 2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

▲ For more details circle NED-179 D9 on enclosed inquiry slip ▲

AJAX

AJAX LO-VEYORS

Ajax Lo-Veyors are welcomed everywhere as cost saving successors to trucks, wheel-barrows and other high cost methods of manual handling bulk materials. *Ask for Catalog.*

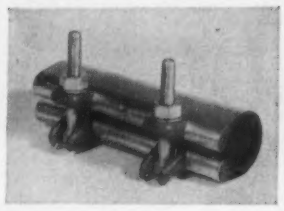
AJAX FLEXIBLE COUPLINGS

Thirty-five years of satisfactory performance on direct-connected pumps, compressors, cranes, conveyors and automated equipment have proved the economy of protecting good machinery with Ajax Flexible Couplings, Rubber-Bronze Bushed or Dihedral gear type. *Ask for Catalogs.*

AJAX FLEXIBLE COUPLING CO. INC.
Westfield, N. Y.

▲ For more details circle NED-180 D9 on enclosed inquiry slip ▲

PIPE REPAIR CLAMP
quickly seals ½ to 8-in. sizes



Leaks or breaks in steel piping are quickly and easily repaired with this Style 118 Handiband clamp. Simple installation requires snapping it around pipe, dropping bolt through the open-slotted lug, and tightening the nut. Large gasket seals leaks permanently. Made of stainless steel, it has malleable iron lugs, cadmium plated nuts and bolts, and gasket that is resistant to most fluids, including condensates, aromatics, and hydrocarbons. Handiclamps are available for ½ to 8-in. pipe sizes in 3, 6, 9, and 12-in. lengths. Made by **Dresser Industries, Inc.**, Dresser Mfg. Div., 41 Fisher Ave., Bradford, Pa.

▲ For more details circle NED-181 D9 on enclosed inquiry slip ▲

ELECTRIC HAND DRYER
operates on any 15-amp line

Built for small washrooms, the economy model Activeaire electric hand dryer starts at the press of a button and shuts off automatically after 40 sec. Operation is on any 15-amp line. An adjustable circular louver directs heated air up or down. The chrome plated model measures 10 x 8 x 8 in. Made by **Activeaire Devices, Inc.**, 1537 Bergen St., Brooklyn 13, N. Y.

▲ For more details circle NED-182 D9 on enclosed inquiry slip ▲

THREADED INSERT DRIVER
has wide-range depth gage

Self-tapping or threaded inserts are driven to accurate position by this Inserto insert or stud driver. Positioning is accomplished by a wide-range, ball-bearing mounted depth gage which can be adjusted while driver is rotating. Tool has a primary clutch for driving and a secondary positive clutch for reversing out of insert after it is driven. It can be used with a tapping head mounted on a drill press, or with air or electric tapping motors as long as tool spindle is maintained at right angles to face of casting. Available sizes handle No. 10 to ⅜ in. ID, ⅜ in. to No. 18 ID, ⅝ to No. 16 female driving thread, as well as ⅜ or ½-in. female square drive inserts. Made by **Titan Tool Co.**, Main Street, Fairview, (Erie County) Pa.

▲ For more details circle NED-183 D9 on enclosed inquiry slip ▲

Big Beam
EXPLOSION-PROOF ELECTRIC HAND LANTERN
for SAFE LIGHT in HAZARDOUS LOCATIONS

The Model 287EX with powerful 1500-foot beam is designed for use in Class I, Group D Hazardous Locations Approved by Underwriters' Laboratories . . . (atmospheres containing gasoline, hexane, naphtha, benzine, butane, propane, alcohols, acetone, benzol, lacquer solvent or vapors, or natural gases). Also complies with U. S. Coast Guard regulations for use on tank vessels.

Spring ejection bulb prevents possibility of afterglow of filament in case of accident. Features: sparkproof, lacquered brass container and head, lead seals on container latch and rim screw, flexible brass tubing sheathed wire, pressure-type battery connectors. Other BIG BEAM Models:

Model No. 408F Flare and Lantern
Model No. 2ATW Automatic Emergency Light
Model No. 166 with Sealed Beam Bulb

Write for Complete Information 6997

U-C-LITE Manufacturing Co. 1073 W. Hubbard St. Chicago 22, Illinois

▲ For more details circle NED-184 D9 on enclosed inquiry slip ▲

FIREROD CARTRIDGE HEATER BY WATLOW

HOTTEST!
5 times more heat than any standard cartridge heating unit.

LONGEST LASTING!
5 to 10 times the operating life of ordinary units.

GREATEST DESIGN FLEXIBILITY!
1/5 the size for the same heat of standard cartridges.

Write for illustrated literature.

WATLOW
ELECTRIC MANUFACTURING CO.
1374 Ferguson Avenue
St. Louis 14, Mo.

▲ For more details circle NED-185 D9 on enclosed inquiry slip ▲

FEMCO-Built and CAMPBELL Designed
1959 LINE
ROLLER DIE CUTTERS and Automatic Trimmers

Designed to save you money by cutting your costs, here are 5 machines in FEMCO's 1959 line of Roller Die Cutters and Automatic Trimmers.

No. 1 is the Heavy Duty Roller Die Cutter with Vertical Die Handling Mechanism; No. 2 is the Heavy Duty Roller Die Cutter with Horizontal Die Handling Mechanism; No. 3, our Standard Model Heavy Duty Roller Die Cutter; No. 4, our Automatic Roll Lift Trimmer; and No. 5, our Automatic Roll Feed Roller Die Cutter.

We can't list here the individual features which make these machines the answer to almost every Die Cutting and Trimming job on such materials as:

Open and Closed Cell Sponge, Vacuum Formed materials, uncured sponge rubber, cork, urethanes, supported and unsupported vinyl sheeting, floor mats, rubber and cork gaskets, leather, foil, felt, Sissal and textiles.

What about *your* material? Is it mentioned here? If not, we'll make trial cuts without obligation to prove we can cut or trim your stock. We're willing and glad to try if you will call or write us today!

Ask to See . . .

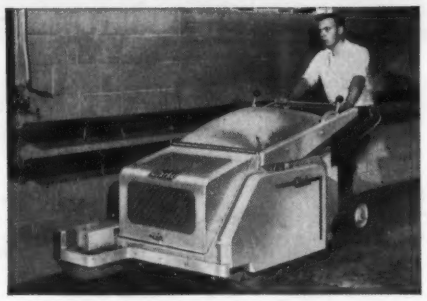
COLOR FILMS of these Machines in Action or a Demonstration in our plant

The FALLS ENGINEERING AND MACHINE CO.
1734 FRONT ST. CUYAHOGA FALLS, O.

▲ For more details circle NED-186 D9 on enclosed inquiry slip ▲

Clarke POWER SWEEPERS

–do the work of up to 20 men!
–cut sweeping costs up to 80%!



It's Clarke's newest addition to the nation's best known line of floor machines. It's built to sweep cleaner, faster and more dust-free than any other sweeping method. Picks up all types of debris, covers up to 50,000 sq. ft. per hour, sweeps right up to walls, maneuvers easily, slashes man hours and sweeping costs.

Write for new brochure. Better yet, ask your Clarke power sweeper distributor for an on-the-job demonstration.

CLARKE FLOOR MACHINE COMPANY
Formerly Clarke Sanding Machine Company
224 S. Clay Avenue, Muskegon, Mich.
Authorized Sales Representatives and Service Branches in Principal Cities. In Canada: Clarke Floor Machine Co., (Canada) Ltd., 21 Advance Rd., Toronto 18, Ontario

▲ For more details circle NED-187 D9 on enclosed inquiry slip ▲

BOWSER

PORTABLE WHEEL TANK

TRANSPORTS LIQUIDS . . . . QUICKLY . . . . SAFELY

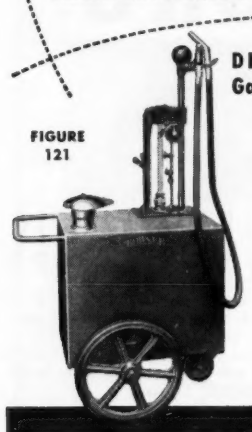


FIGURE 121

DISPENSES AND REGISTERS
Gallons, ½ Gallons, Quarts, Pints

Oils, solvents, process liquids . . . are all transported quickly, easily, safely . . . and dispensed accurately in controlled quantities. A piston-type measuring pump with counter records up to ten gallons and repeats or resets. Protecto-Seal fill-and-vent with built-in flame arrestor assures safe handling of flammable liquids. Anti-drip nozzle. 50-gallon tank. Convenient delivery hose.

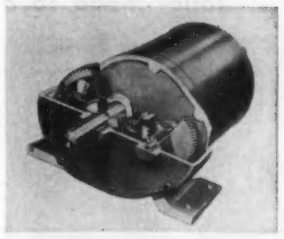
ALSO AVAILABLE . . .

Figure 63	Figure 172	Figure 41	Figure 109
Measures quart, pint, or ½-pint. Anti-drip nozzle. Pump is lockable. 65-gal. tank.	Completely enclosed. Hinged, lockable cover. Same pump and tank as Figure 63.	Floor stand pump for low-level tanks. Measures gals., ½ gals., qts., pints. Lockable.	Dispenses and records gal., ½ gal., qt. and pt. quantities. 65 or 120-gal. tank.

BOWSER, Inc., 1381 EAST CREIGHTON AVENUE FORT WAYNE, INDIANA

▲ For more details circle NED-188 D9 on enclosed inquiry slip ▲

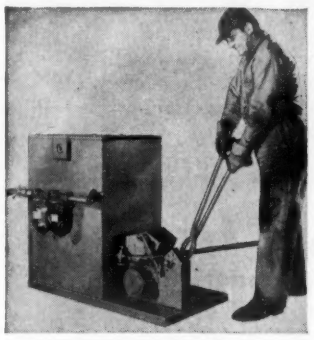
¼-HP GEARMOTOR speeds of 30, 60, or 120 rpm



Low cost VW10 gearmotor incorporates an integrally mounted, ¼-hp, split-phase motor and precision cut gears. Speeds are 30, 60, or 120 rpm, and a developed torque is up to 433 lb-in. Continuous or intermittent duty unit is electrically reversible. Total weight is 18 lb. Permanently lubricated, it measures 6 x 8½ x 11 in. Operation is on 115 v ac, at 50° C rise above ambient temperature. Made by **Von Weise Gear Co.**, 9353 Watson Industrial Park, St. Louis 19, Mo.

▲ For more details circle NED-190 D9 on enclosed inquiry slip ▲

LOW-KNIFE CROPPING SHEAR cuts 1½-in. diameter hot bar



Up to 1½-in. diameter hot steel rounds can be cut by this low-knife cropping shear, available in various sizes. Units operate from 80 to 100-psi plant air supply and cut automatically when bar is placed in jaws. Knife throat is only 12 in. above ground. Shear requires no foundation and occupies 18 x 34-in. floor space. Over-all height is 30 in. Made by **Curry Air Shear Corp.**, 3519 Bigelow Blvd., Pittsburgh 13, Pa.

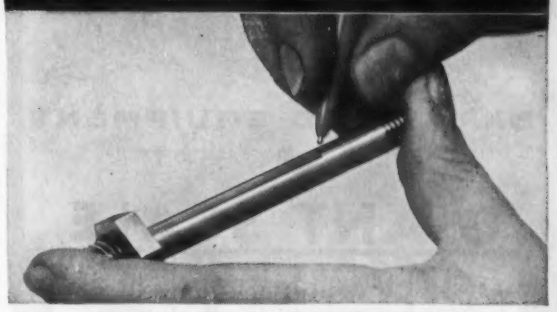
▲ For more details circle NED-191 D9 on enclosed inquiry slip ▲

KEYBOARD SWITCH is 6-pole pushbutton type

Push-on, push-off, or momentary contact types of six-pole keyboard switches are designed for "light-action" installations where additional switching circuits are required. The six independent poles can be supplied in any combination of normally-open or normally-closed contacts, such as five open and one closed, or three-pole, double-throw double-break. Switches have 1 to 2 lb-operating pressure, ½-in. mounting thread, ¾-in. case diameter, 3/16-in. travel, and ½-amp inductive contacts at 28 v dc. Pushbuttons can be supplied in varied colors and shapes, engraved to individual requirements. Made by **Pendar, Inc.**, Switch Div., Dept. A, Box 3355, Van Nuys, Calif.

▲ For more details circle NED-192 D9 on enclosed inquiry slip ▲

FREE ANALYSIS OF YOUR DIFFICULT MACHINING PROBLEMS



PAVES WAY FOR NEW FLOW METER DESIGN

PROBLEM: find a way to cut a precise, tapered orifice in a stainless steel tube, needed for a new type flow meter to measure accurately pressures up to 15,000 psi. **SOLUTION:** A Raytheon Ultrasonic Impact Grinding Analyst suggested impact grinding it with a tool .0005" under the final size of the orifice. **RESULT:** a precise, uniform tapered orifice held to .0002" tolerance, elimination of slow, costly milling and filing . . . and a COMPLETELY NEW flow meter design which does not require a bulky, expensive tapered tube. The meter is manufactured by the C-Mar Corp., Manasquan, N. J.

HOW YOU CAN BENEFIT–
If you have a difficult cutting, slicing, drilling, engraving or shaping problem in hard or brittle material, see your Raytheon Impact Grinding Analyst. Write Dept. NW4 –without obligation.

RAYTHEON
Excellence in Electronics

RAYTHEON MANUFACTURING COMPANY
Industrial Apparatus Division, Production Apparatus Dept., Waltham 54, Mass.

▲ For more details circle NED-193 D9 on enclosed inquiry slip ▲

What's your answer?

"MAKE-OR-BUY" CABLE ASSEMBLIES ...AND WHOSE?

MAKE?
Making your own cable assemblies from wire rope and various fittings involves time and hand labor plus materials. Uniformity and safety factors may be reduced.

BUY?
When you buy "factory-finished" cable assemblies, you can assign a part number and always be assured of a neat, uniform machine part with maximum safety. Your costs are definitely established by a firm quotation from specialists.

WHOSE?
Today there are many types to meet mechanical control needs. Investigate Hi-Quality Macwhyte "Safe-Lock" cable assemblies — let us quote on your requirements.

138

MACWHYTE Wire Rope COMPANY
2906 Fourteenth Avenue, Kenosha, Wisconsin
WIRE ROPE WITH A PURPOSE... TO SERVE YOU BETTER!

▲ For more details circle NED-194 D9 on enclosed inquiry slip ▲

YALE GASOLINE TRUCK GIVES 300% MORE VISIBILITY!

Greater stability, too! Lifts 20,000 lbs. at 60′ a minute! Travels 20 mph!

STABILITY! Twin-cylinder lifting – low gravity center – I-beam frame assembly – rugged construction for rugged outdoor work.

VISIBILITY! Widely spaced channel and carriage design gives completely unobstructed view – 300% more visibility than usual.

SPEED! 20 mph traveling speed – 60′ per min. lifting speed – extra fast lowering speed.

LP-GAS! Yale G-3 is easily convertible to LP-gas.

CAPACITY! 15,000 to 20,000 lbs.

AVAILABLE with fluid coupling, standard transmission or Yale's fully automatic Torque Transmission.

For full information and demonstration call your Yale representative – or write The Yale & Towne Manufacturing Co., Yale Materials Handling Div., Phila. 15, Pa., Dept. GT-1H.

YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS
YALE & TOWNE

GASOLINE, ELECTRIC, DIESEL AND LP-GAS INDUSTRIAL LIFT TRUCKS • WORKSAVERS
WAREHOUSERS • HAND TRUCKS • INDUSTRIAL TRACTOR SHOVELS • HAND, AIR AND ELECTRIC HOISTS

▲ For more details circle NED-189 D9 on enclosed inquiry slip ▲

WATER

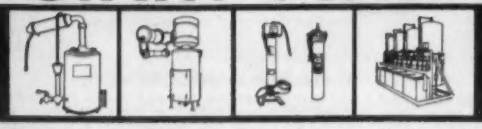
DISTILLED, DEMINERALIZED,

or 18,000,000 OHM PURITY?

BARNSTEAD EQUIPMENT

produces it in laboratory quantities or on a

GIANT SCALE



Whatever your pure water requirement, distilled, demineralized, or even water of 18,000,000 ohm purity, you can depend upon Barnstead for the right answer . . . the right equipment . . . Barnstead makes both . . . Stills and Demineralizers . . . and specialized equipment such as the MF®Submicron Filter . . Pure Water Specialists since 1878.

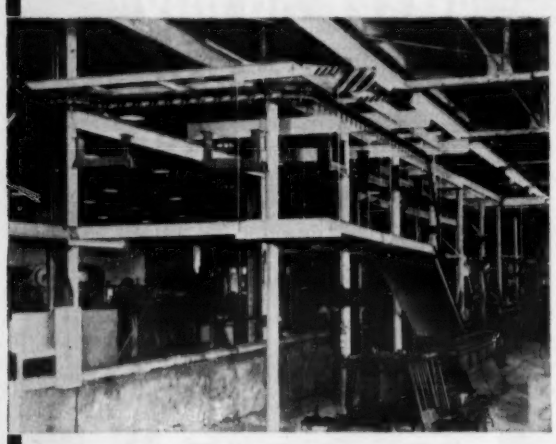
Write for Catalog "G" and Catalog 127.

Barnstead
STILL & STERILIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

▲ For more details circle NED-195 D9 on enclosed inquiry slip ▲

#232 LIGHT-DUTY TROLLEY CONVEYER

A MATHEWS STANDARDIZED PRODUCT



This light-duty Trolley Conveyer is comparatively easy to install, with hanger rod and angle hanger supports available to meet any supporting requirement. Standard turns, vertical bends, and takeup assemblies are made in sizes and types to fit even the most difficult layout.

This equipment is priced reasonably and is available from stock, being assembled from standard parts throughout.

Write for Bulletin T-58 today

MATHEWS CONVEYER COMPANY
GENERAL OFFICES . . . . . ELLWOOD CITY, PENNSYLVANIA
PACIFIC COAST DIV. . MATHEWS CONVEYER COMPANY WEST COAST, SAN CARLOS, CALIFORNIA
CANADIAN DIVISION . . . . MATHEWS CONVEYER COMPANY, LTD., PORT HOPE, ONTARIO

MATHEWS
Over Fifty Years of Leadership in Mechanized Handling

▲ For more details circle NED-196 D9 on enclosed inquiry slip ▲

INDUSTRIAL ARC WELDERS

300 to 650-amp units can be tailor-made to customer needs

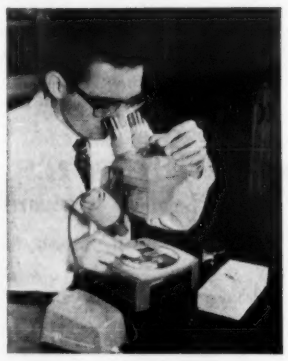
Improved arc characteristics and optional features allow TM Idealarc industrial arc welders to be tailor-made to customer needs at minimum extra cost. Available as either alternating current transformer welders, or combination alternating and direct current rectifier welders, they have a movable core reactor current control and are made in 300, 400, 500, and 650-amp NEMA ratings.

Users can choose remote control of current and polarity, a low voltage contactor that reduces open circuit voltage when machine is on but not welding, a line starter with overload protection, an arc booster, or power factor correction condensers. Machines have safe 73-v open circuit voltage, yet produce stable arc even with low ac amperage. Prices range from $245 to $510. Made by **Lincoln Electric Co.**, 22801 St. Clair Ave., Cleveland 17, Ohio.

▲ For more details circle NED-197 D9 on enclosed inquiry slip ▲

STEREOMICROSCOPE

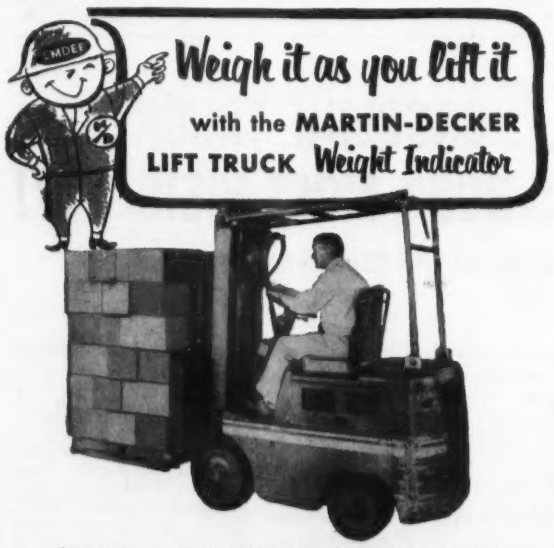
has "zoom" type magnification and enclosed optical system



Continuous magnification change without image blackout is made possible by StereoZoom feature of this stereomicroscope. Step by step increase in magnification is eliminated. Instrument also features the Power Pod self-contained optical system in which lenses, eyepieces, and mirrors are enclosed in a sealed housing. Power Pods are reversible in the stands through use of two spring clips.

Four Power Pods and lens attachments fit all five basic stands and provide a magnification range of 3.5 through 120 X. Arrangement of two completely geared lens systems in each Power Pod gives true three-dimensional images and assures an edge-to-edge flatness of field. Special model with dial micrometer gives precise depth measurements accurate to ±0.1 mm without touching the viewed object. Made by **Bausch & Lomb Optical Co.**, Dept. NED, 151 St. Paul St., Rochester 2, N. Y.

▲ For more details circle NED-198 D9 on enclosed inquiry slip ▲



Weigh it as you lift it
with the MARTIN-DECKER LIFT TRUCK *Weight Indicator*

KNOW THE WEIGHT OF EVERY LOAD

As you lift it!

Here's the accurate, convenient, safe low-cost way to prevent overloads—totalize truck car loadings—simplify weight inventories—insure floor weight distribution—

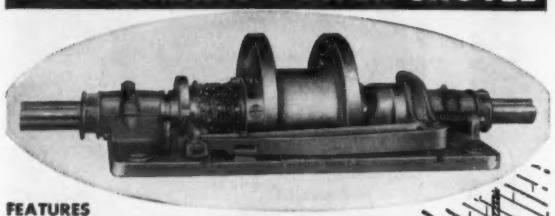
Write for Descriptive Bulletin. S-25

MARTIN-DECKER CORP.
HOME OF THE WEIGHT INDICATOR — LONG BEACH, CALIFORNIA

▲ For more details circle NED-199 D9 on enclosed inquiry slip ▲

Webster No. 40 *Improved*

AUTOMATIC POWER SHOVEL



FEATURES
- One-man operation
- No hazardous counterweights
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- Positive action
- Easy control
- Positive safety

For economical and fast UNLOADING of grain, feed, coal, lime, cement and other bulk materials from railroad cars and long truck trailers.

Write for literature
WEBSTER MANUFACTURING, INC.
Dept. NE-49, Tiffin, Ohio
Offices in all principal cities

Materials Handling Systems Since 1876

BELT, APRON and FLIGHT CONVEYORS • CHAIN and ATTACHMENTS • IDLERS • BUCKET ELEVATORS • CAR PULLERS • PILLOW BLOCKS • CLUTCHES • SHEAVES • PULLEYS • ROLLERS • SPROCKET WHEELS

▲ For more details circle NED-200 D9 on enclosed inquiry slip ▲

NEW NYLON & THERMOPLASTIC parts from GRC

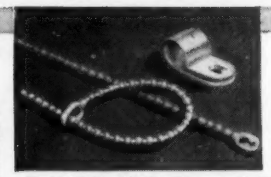
Economically mass produced on fully automatic, patented machines,

GRC nylon parts are available from stock in many sizes and types.

GRC uses single cavity techniques, molds in one automatic cycle, gets accurate, uniform parts, ready for immediate use.

These advantages, these economies, apply too on tiny made-to-order parts to your specifications . . . in quantities of 25,000 to many millions.

Write for bulletin describing GRC's unique methods for injection molding small plastic parts or send prints for quotation. Ask about our zinc alloy die castings, too!



THERMOPLASTIC TIES & CLAMPS

- Unique color-coded polyethylene TIES enable rapid simple wire-bundlings, reuseable.
- Nylon or ethyl cellulose CLAMPS for attaching bundled wires to assemblies. 17 sizes.

High dielectric, extremely tough and resilient, highly resistant to abrasion. Lightweight, durable. Approved for all military installations.

NO SIZE TOO SMALL. Maximum: 1¼" long — .03 oz.

Now available from stock. Write for samples, prices, and GRC's New Fastener Catalog

GRIES

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
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▲ For more details circle NED-201 D9 on enclosed inquiry slip ▲

Your Problems in moving

AIR
DUST
FUMES
AND
MATERIALS

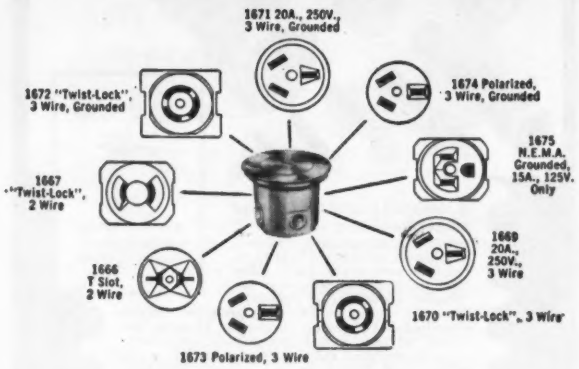
easily solved with FLEXAUST® HOSE

Both Flexaust hose and Portovent retractable duct are made of neoprene coated fabrics and wire reinforced, and have service-proven their dependability and durability in thousands of installations since 1938. Easy to cut, couple, connect, reuse, relocate, they can be installed in minutes to give years of service. Sizes from 1¼ to 36" i.d.

WRITE TODAY FOR DETAILS
THE FLEXAUST COMPANY
Dept. NED-4 100 Park Avenue, New York 17, N. Y.

▲ For more details circle NED-202 D9 on enclosed inquiry slip ▲

NEW! T&B floor box receptacle combination to fit all plugs and match all circuit wiring



Now you can save time, save installation money and increase safety — all these T&B receptacles fit all T&B floor boxes eliminating special boxes, special adapters and make-shift arrangements.

See your local T&B distributor for full information, or write:

THE THOMAS & BETTS CO.
Incorporated
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada

▲ For more details circle NED-203 D9 on enclosed inquiry slip ▲

BUY DIRECT! SAVE AT PALLEY'S

AS LOW AS 56.75

NEW PALLEY HYDRAULIC CYLINDERS — Here are two of our newly developed line of double action industrial Hydraulic Cylinders. These cylinders are designed to meet the most rigid requirements of industry. All are heavy duty steel construction.

Type (A) is a heavy duty, press type cylinder with bores of 3", 5", 6" and 8" — thrust range up to 75 TONS at 3000 PSI.

Type (B) is an internal cap type cylinder with bores of 1½", 2", 2½", 3", 3½" and 4". Has strokes from 2" to 48". Delivers up to 18,850 lbs. thrust on 1500 PSI line pressure.

For complete listing of our tremendous stocks and prices — Send for our Special Hydraulics Catalog.

SAVE! 20.75 B AND UP

VICKERS HYDRAULIC ANGLE PUMPS

Save up to 50% on these Piston type, positive displacement Hydraulic Pumps. Made to top Government Specifications.

Part No.	G.P.M.	PSI	RPM	Price
H-P4A	5.3	1000	3000	$22.50
H-P5A	2.7	1500	3000	25.75
H-P4U	6	1000	3000	22.50

1 500 PSI Double Action HYDRAULIC CYLINDER NEW

Good for clutch or throttle control when used as a master & slave. Has 5/8" bore, 4-1/8" stroke, 7/16" shaft, 9-5/8" closed length. 1/4" tube ports (7/16–20 thread).

No. H-60 ONLY . . . 3.75

HYDRAULIC ACCUMULATORS

A 3000 PSI Bendix ball type Accumulator. Top condition.

No. H-5½ — Has 5-1/2" dia. . . $27.50
No. H-A7 — Has 7" diameter . . 32.50

2000 PSI Ball ACCUMULATORS

No. H-A5SU — Vickers. 10" dia. $24.50
No. H-A5A — 5½" dia. NEW . . . 15.75
No. H-A5AU — 5½" dia. Used . . 10.75

NEW 3-TON SPUR GEAR CHAIN HOIST 179.50

WORTH $300

Army type with spur geared block. Constructed of steel & malleable iron. Chain drive. Use wherever an overhead trolley hoist is needed. Will handle up to 3 TONS. Model 41. Made by Chester White Mfg. Weight: approx. 540 lbs. Unused, good cond.

GRAVITY CONVEYOR

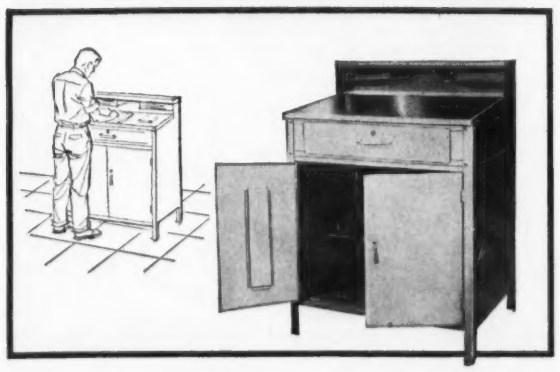
Has 500 lb. per ft. cap. 12" wide curved steel frame. 5 rows of 2" diameter, 5/8" face, ball bearing steel wheels. Each unit will lock to next. Has 45° curve. NEW!

14.95

Pay by M.O. or Check. P.O.s accepted from D&B firms rated F2½ or better. 1/2 deposit with C.O.D.s. Prices F.O.B. Los Angeles Whse.

palley's 2263 E. Vernon Ave. Dept. NED-49, Los Angeles, Calif.

▲ For more details circle NED-204 D9 on enclosed inquiry slip ▲



Republic SHOP EQUIPMENT
for convenience, comfort, service

Republic Shop Desks are big, roomy, just right for those jobs that require writing in a standing position. Strong, sturdy, steel construction for over-the-years economy. Republic's Berger Division is the leading manufacturer of work benches, tool racks, shelving, and other specialized shop equipment. Call your Republic representative, or write direct.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

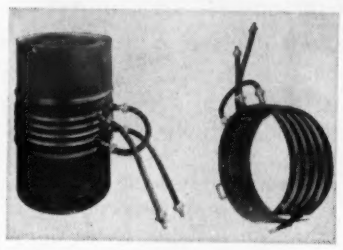
▲ For more details circle NED-205 D9 on enclosed inquiry slip ▲

FELT-TIPPED MARKER
writes on anything in color

About the size of a large crayon, this aluminum, felt-tipped Cado-marker will write on metal, glass, rubber, plastics, leather, fabrics, wood, and paper. It is offered in eight oil-base ink colors and can make either broad or script-like lines when turned in the hand. When not in use, a cap shields the felt tip. Price is 89 cents; refills, 50 cents. Made by **Cushman & Denison Mfg. Co.**, 730 Garden St., Carlstadt, N. J.

▲ For more details circle NED-206 D9 on enclosed inquiry slip ▲

DRUM WARMER-COOLER
quickly changed from drum to drum



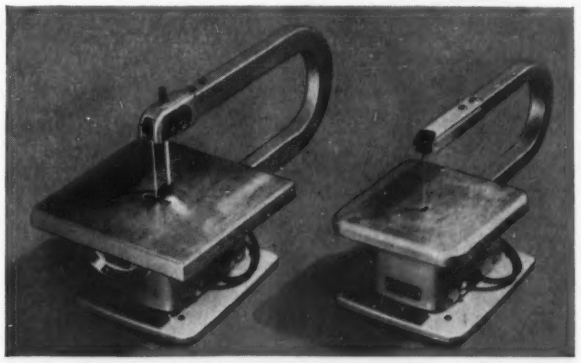
Single-embossed Platecoil unit with quick-acting clamp and flexible connections permits rapid change of the drum warmer-cooler from one drum to another or changing the location on an individual drum. Built for 55-gal drums, it has insulated handles. It connects to steam lines, hot or cold water, or to refrigeration sources. Price with hoses is $139.50; without hoses, $106. Made by **Tranter Mfg., Inc.**, Platecoil Div., 735 E. Hazel St., Lansing 9, Mich.

▲ For more details circle NED-207 D9 on enclosed inquiry slip ▲

SCRUBBER-VACUUM MACHINE
rider type cleans 95,000 sq ft/hr

Four 18-in. brushes operating at 180 rpm enable the 72-F rider-type scrubber-vacuum cleaner to remove dirt and grime from up to 95,000 sq ft of open floor per hour. Brushes agitate a cleaning solution dispensed from a 150-gal tank. Pressure on floor is variable up to 400 lb. Large V-shaped squeegee funnels loosened dirt into a 150-gal pick-up tank by means of 75-cfm vacuum. Machine is powered by 35-hp gas or propane engine and operates at speed of 2 to 3 mph. It will travel at 15 mph. The 114-in. long, 72-in. wide cleaner operates in 10-ft aisles. Made by **Finnell System, Inc.**, 5500 East St., Elkhart, Ind.

▲ For more details circle NED-208 D9 on enclosed inquiry slip ▲



Republic ELECTRUNITE Mechanical Tubing
...saves production time, materials, costs!

Syncro Corporation, Oxford, Michigan, manufactures quality jig saws for home and workshops. Previously, they used a casting for the blade-yoke which requires a severe bend. ELECTRUNITE® Square Tubing was recommended for one model, rectangular tubing, for the other.

Results: Reduction of weight of the blade-yoke and improvement in appearance of the product at a savings in time, materials, assembly, and shipping costs.

To learn how ELECTRUNITE can save you time and money. Call your Republic representative, or write today.

REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. • Cleveland 8, Ohio

▲ For more details circle NED-209 D9 on enclosed inquiry slip ▲

Modern Methods Cost Less

SAVE MATERIAL AND TIME WHEN YOU CUT PAPER, LEATHER, PLASTICS, OTHER SOFT STOCK

Whatever soft materials you cut, Hobbs-Jacques Hand Shears do the job quickly and accurately in one easy stroke. Even if it's only an occasional operation, modern "engineered cutting" equipment saves the cost of waste materials and time.

Hobbs-Jacques Hand Shears include a complete line for widths 16" to 10'. Bench and table models, with and without gauges.

Write for "Engineered Cutting" brochure. No obligation!

HOBBS MANUFACTURING CO.
EST 1882 410 SALISBURY ST., WORCESTER 5, MASS.
Branch Offices and Representatives in Irvington, N. J., Chicago, Cleveland, Louisville, Greenville, S. C., Toronto and other Principal Cities

WINDERS
HAND AND POWER SHEARS
DIE PRESSES
SLITTERS
CORNER CUTTERS

▲ For more details circle NED-210 D9 on enclosed inquiry slip ▲

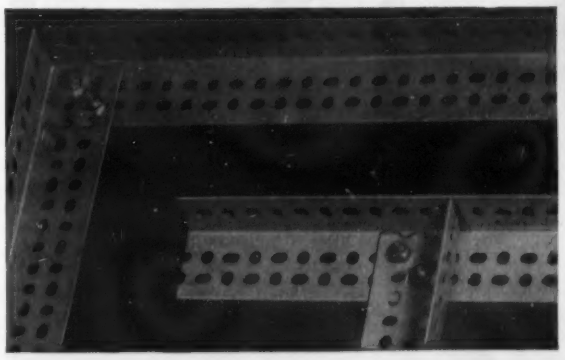
Improved Sealtite E. F.

Sealtite type E.F.* — the original flexible, liquid-tight conduit, first to meet J.I.C. requirements — is now better than ever. New design has made it stronger, tougher, more durable in service . . . easier to install. Heavier extruded PVC jacket offers greater resistance to abrasion, cutting and tearing . . . greater oil resistance . . . greater holding power for fittings. It is more flexible — permits smaller bending diameters. New convenient markings save time, prevent waste. Length is indicated by arrows at 1-foot intervals. Trade size in inches is shown on cover. In black or gray. For free sample and more information, write: Anaconda Metal Hose Division, The American Brass Company, Waterbury 20, Conn.

*Pat. Applied For 59146

SEALTITE® flexible, liquid-tight conduit
an ANACONDA® product

▲ For more details circle NED-211 D9 on enclosed inquiry slip ▲



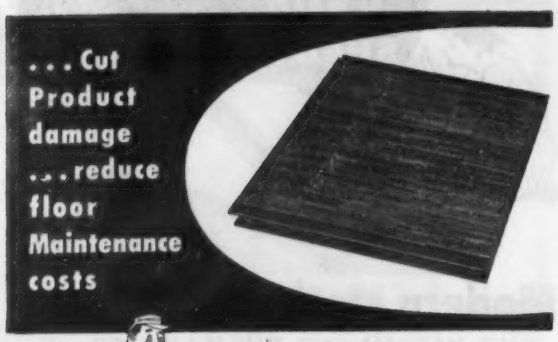
Republic METAL LUMBER
for fast, economical framing

Republic's METAL LUMBER® is the fast, economical, versatile steel building material that is as easy to use for framing as common lumber. Simply measure, cut, and assemble with standard nut and bolt fasteners. Strong, sturdy, steel. Delivered in bundles of 10 pieces in 10-foot or 12-foot lengths. Send for attractive catalog of ideas, or call your Republic representative.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle NED-212 D9 on enclosed inquiry slip ▲

NEW! FLEX-O RUBBER FLOOR PADS



■ Now you can protect dropped products and floors with low cost FLEX-O floor pads. Built for heavy duty service, they are made with steel channel frames and laminated segments of resilient rubber reinforced fabric. They are available in two standard sizes for use on the floor and for recessing into specially built floor pockets.

Write for detailed literature.

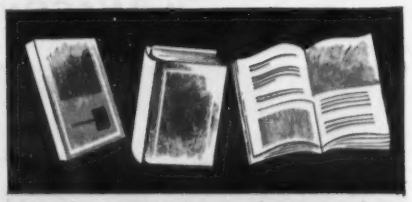
BUMPERS, INC.
Subsidiary of Rowe Methods, Inc.
2534-D Detroit Ave. • Cleveland 13, O.

▲ For more details circle NED-214 D9 on enclosed inquiry slip ▲

need a good copy fast ?

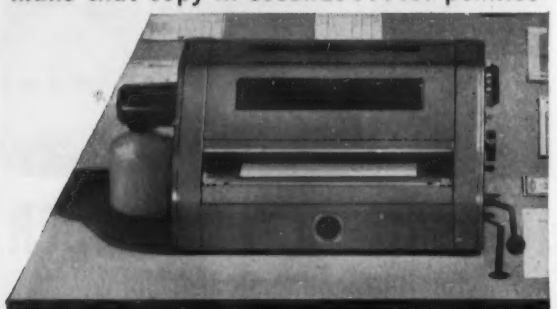
. . . of anything printed, duplicated, typed, written, drawn or photographed?

. . . from opaque, two-sided or transparent paper



. . . heavy cardboard, pages bound in books or magazines?

Make that copy in seconds . . . for pennies



NEW A. B. DICK PHOTOCOPIER

FREE! Test sheet and photocopy that demonstrate complete range of A. B. Dick Photocopier.

A. B. DICK COMPANY, 5700 West Touhy Ave., Chicago 48, Illinois

▲ For more details circle NED-215 D9 on enclosed inquiry slip ▲

PENCIL SOLDERING IRONS have 3-wire grounded connection

Compact 3-wire grounded connections are now available on Hexacon pencil soldering irons. These irons are completely safe for printed circuit work, and leakage is eliminated. Units are available in 1/16, 1/8, 3/16, and 1/4-in. tips for temperatures from 550 to 1050° F. The 12 to 60-w units weigh only 3 oz. Made by **Hexacon Electric Co.**, 145 W. Clay Ave., Roselle Park, N. J.

▲ For more details circle NED-216 D9 on enclosed inquiry slip ▲

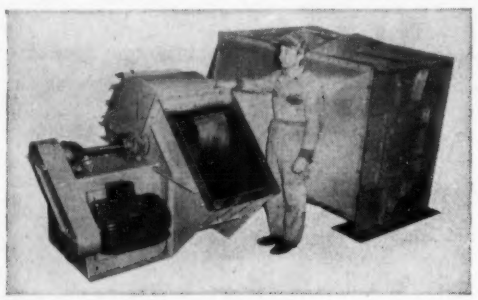
2-LB HAMMER handle is integral with head

Everlasting vinyl-nylon cushion grip of this 2-lb Mitey-Mite hammer affords safety and comfort when used for masonry drilling, cold chisel cutting, and many other heavy duty operations involving pounding. The tool steel handle is integral with head, making it unbreakable. This 11-in. long hammer is priced at $5.25. Made by **Estwing Mfg. Co.**, 2689 Eighth St., Rockford, Ill.

▲ For more details circle NED-217 D9 on enclosed inquiry slip ▲

PACKAGED VENTILATOR handles acid fumes in pickling

A scrubber, transition, and fan are included in this packaged ventilator, designed to handle sulphuric, hydrochloric, and low concentrate nitric acid fumes in



continuous or batch pickling systems. All parts exposed to air stream are lined with 1/8-in. neoprene. Scrubber has extruded polyvinyl chloride impingement baffles. Piping and nozzles are also of PVC. Heavy-duty Type J steel fan has nonoverloading backward curve design. Unit is made in 5000 to 40,000 cfm sizes with 27 to 49-in. fan blades. Made by **Robinson Ventilating Co.**, 206 Henderson St., Zelienople, Pa.

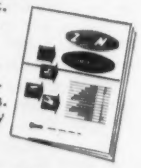
▲ For more details circle NED-218 D9 on enclosed inquiry slip ▲

Zero-Max. for the SPEED you need

. . . on lead screw feeds — for lathes and grinders . . . tables . . . mills

ZERO-MAX gives you the speed you need for finer finishes, quicker, more accurate positioning and longer blade, cutter, band and wheel life. This infinitely variable speed control is smoother and quieter than most other original power equipment. By merely moving a lever, you can change speed or direction at any time, running or not. Speeds from zero to 400 rpm—torque up to 100 inch-pounds. With or without motor, and with gearheads for multiplying speed range or torque up to 4½ times.

What's your rpm problem? *Write for fully illustrated 16 page catalog.*



The ZERO-MAX *Company*
subsidiary of REVCO INCORPORATED
1910 Lyndale Ave. S., Minneapolis 5, Minn.

Zero-Max. FHP INFINITELY VARIABLE SPEED CONTROLS

▲ For more details circle NED-219 D9 on enclosed inquiry slip ▲

Get MORE for your money with "PERFECT HOLE" Setko Cap Screws!

Write for New Cost-Cutting Catalog #23

GET FREE SELECTOR CHART on Self-Locking Set Screws

Ask for money saving Hopper Feeding Data and Screw Prices

A complete line of Cold Forged Socket Head Cap Screws produced on specially designed machinery assures perfect, chip-free sockets every time. Hex keys insert completely into the "Perfect-Hole" socket *perfectly.* You get maximum gripping area for equally distributed tightening torque . . . Threads are rolled to unmatched precision . . . Available with or without knurled heads in high grade Alloy Steel. Size 8 to ⅝ . . . Isothermal heat treated for extra strength.

SEND FOR FREE TEST SAMPLES
Get your samples of these top quality Cold Forged Socket Head Cap Screws Today . . . Actually compare these Setko "Perfect Hole" Cap Screws with any others for yourself. Let us know what your requirements are so we can quote you our advantageous prices.

SETKO Set Screw & Mfg. Co.
324RR 130 Main St., Bartlett, Ill. (Chicago Suburb)

▲ For more details circle NED-220 D9 on enclosed inquiry slip ▲

Cut inventory, maintenance, vibration, with Veelos, the adjustable V-belt!

Four 100' reels of Veelos (O, A, B, C widths) meet every V-belt need up to 316 sizes . . . store in *inches of space!*

CUT DOWN-TIME! Veelos is adjustable—no need to tear down outboard bearings, reset, tilt or move motors to make belt replacement or repairs. Tighten or change your Veelos belt by adding or removing links. No more waiting for a new belt, or new matched set when a belt gets loose!

CUT VIBRATION! Install Veelos in place of ordinary endless belts. Your Veelos salesman can prove, with the amazing Veelos Vibration Analyzer, that Veelos cuts vibration up to 90%!

Write for FREE Veelos Data Book to: MANHEIM MANUFACTURING & BELTING CO.

Manheim 4, Pa.

VEELOS THE BALANCED LINK V-BELT

Veelos is known as Veelink outside U.S.A.

©M.M.&B. CO. 1958

▲ For more details circle NED-221 D9 on enclosed inquiry slip ▲

BIG heat exchangers of titanium and zirconium made to your order . . . fast

New welding methods let us offer you zirconium and titanium exchangers of several hundred square feet of heat transfer area.

Unit shown, all zirconium, is 134 square feet. Used for concentrating hydrogen peroxide solutions.

Delivery schedules are excellent.

For more information on heat transfer equipment made of these strong, lightweight, highly corrosion-resistant metals, write for Bulletin 949.

PFAUDLER PERMUTIT INC.
Pfaudler Div. • Dept. NED-49
Rochester 3, N. Y.

75 YEARS CREATING FOR TOMORROW

▲ For more details circle NED-222 D9 on enclosed inquiry slip ▲

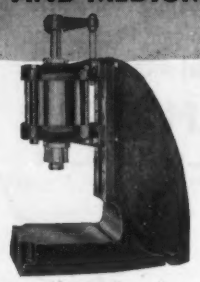
CUT COSTS IN LIGHT AND MEDIUM PRESS OPERATIONS

WITH

Bellows

MODEL BAP-20A

ARBOR PRESS



Don't let presses that are too large for the job steal your profits. Low-cost, bench-mounted Bellows Model BAP-20A Arbor Presses are thoroughly proven for light and medium forming, flaring, crimping, pressing, stamping, imprinting, riveting and other assembly operations. Ram clearance adjustable to 6-13/16"; stroke to 2-1/2". "Squeeze" can be closely controlled, accurately maintained, is infinitely variable from a "kiss" to 20 times air line pressure.

• Free Bulletin P-450 gives complete information and specs. Write for your copy today. Address: The Bellows Co., Akron 9, Ohio. Dept. NED459.

1311-B

OTHER INDUSTRIAL DIVISIONS OF IBEC: Sinclair-Collins Valve Co., Valvair, Akron, O. V. D. Anderson Co., Cleveland, Ohio

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 9, OHIO

▲ For more details circle **NED-223 D9** on enclosed inquiry slip ▲

BUILD YOUR OWN HIGH-SPEED, SPECIAL-PURPOSE MACHINES

for

- DRILLING
- TAPPING
- REAMING
- SPOT FACING
- COUNTERBORING
- HOLLOW MILLING

with

BELLOWS-LOCKE
SELF-CONTAINED
DRILL UNITS

Using versatile, low-cost Bellows-Locke basic drill units, your own personnel can quickly and easily assemble high-production machines to meet specific needs. Precision controls and simplicity of operation assure top quality work at peak production rates, even by unskilled workers. Features: ¼" drill capacity; controlled-air-power rapid advance and retract; adjustable hydraulic feed; mounts at any angle.

Write today for free 8-page Bulletin BL-5 RA
Address: The Bellows Co., Akron 9, Ohio. Dept. NED459

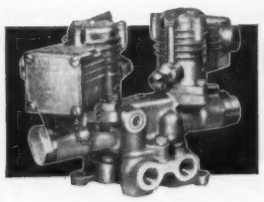
1310-B

OTHER INDUSTRIAL DIVISIONS OF IBEC: Sinclair-Collins Valve Co., Valvair, Akron, O. V. D. Anderson Co., Cleveland, Ohio

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 9, OHIO

▲ For more details circle **NED-224 D9** on enclosed inquiry slip ▲

no coil burnout with SPEED KING®



PILOT OPERATED CONTROL VALVES

Built to JIC standards • interchangeable pilots • choice of mounting types, optional features • ac or dc, any voltage • ¼ to 1 in. NPT.

SPEED KING solenoid pilot coils, potted in molded resin, are unconditionally guaranteed against coil burnout for the life of the valve!

And, SPEED KINGs are totally enclosed, sealed against entrance of dirt or moisture . . . are fully air-operated, for speed and dependability . . . feature a hard-chrome plated stainless steel plunger floating in O-rings, to eliminate wear-producing metal-to-metal contact.

For multi-million cycle dependability, specify Valvair® SPEED KING control valves.

8007

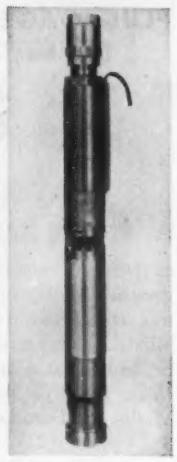
Write for free Bulletin D-58. Address: Valvair Corp., Akron 11, Ohio, Dept. NED-458.

Valvair AKRON 11, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

Other INDUSTRIAL DIVISIONS of IBEC: The Sinclair-Collins Valve Co. The Bellows Co., Akron, Ohio • V. D. Anderson Co., Cleveland, Ohio.

▲ For more details circle **NED-225 D9** on enclosed inquiry slip ▲

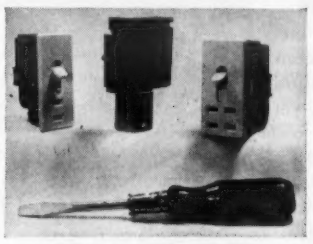
SUBMERGIBLE PUMP for wells up to 600 ft deep



Designed for 6-in. wells, the Submerga Model H submergible pump is rated at 130 gpm, but has a capacity range up to 225 gpm. It will pump from depths to 600 ft. Motor sizes of 5, 7½, 10, 15, and 20 hp and three, four, five, eight, and ten-stage units meet a wide range of requirements. The 5 and 7½-hp pumps are available with single-phase motors for 230 v and all sizes are offered with three-phase motors for 220, 440, or 550 v. Made by **Red Jacket Mfg. Co.**, Davenport, Iowa.

▲ For more details circle **NED-226 D9** on enclosed inquiry slip ▲

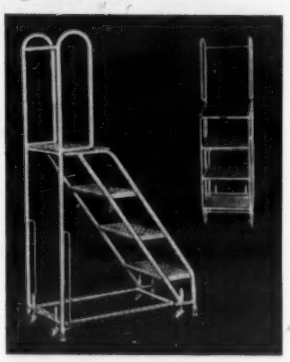
CIRCUIT BREAKERS have 5 to 20-amp ratings



Household appliances, power tools, portable generators, electronic apparatus, and business machines are applications of Type SA low amperage circuit breakers. The 120-v, switch-rated units (center) are offered in 5, 10, 12, and 20-amp ratings and measure 2⅜ x 11/16 x 2½ in. Also available in a 15-amp rating is a single outlet breaker with a plug-in receptacle (left), and a double-outlet unit with two receptacles (right), one of which has separate terminals for an external control switch or electric timer. Made by **Federal Pacific Electric Co.**, 50 Paris St., Newark 1, N. J.

▲ For more details circle **NED-227 D9** on enclosed inquiry slip ▲

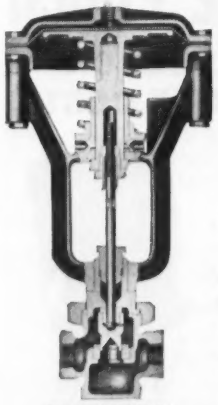
STEP LADDERS safe-to-use folding units



Folding mechanism of Safety-Step aluminum ladders locks securely at the base to make them rigid and stable in use. A quick lifting motion folds them to fit a 10-in. storage space. Handrails are available on three, four, and five-step models. Two, three, and four-step models are offered without handrails. Easily cleaned, extruded aluminum steps provide a sure grip. The ball bearing casters automatically retract when the user steps on the ladder, assuring immovable safety. Made by **Ballymore Co.**, Lincoln & Garfield Avenues, West Chester, Pa.

▲ For more details circle **NED-228 D9** on enclosed inquiry slip ▲

PRECISE, LOW COST CONTROL



Sinclair-Collins VALVES

250 PSI, 2-WAY, V-PORT MODULATING controls temperature, pressure or flow direct or reverse acting, ½–2 in. NPT.

leak-free performance • longest service life • no wire drawing of seats • heavy duty bronze, ductile iron or cast steel bodies • for oil, air, steam, hot or cold *raw* water • 2, 3 and 4-way • single or two pressure • high or low pressure • air operated automated or remote manual control • ideal for central *raw* water hydraulic systems • 150 to 6,000 PSI • ¼ to 3 in. NPT

8008

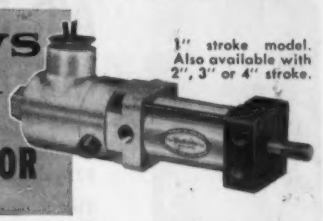
Write for free Bulletin SC-59, Address: The Sinclair-Collins Valve Co., Akron 11, Ohio, Dept. NED 459.

The SINCLAIR-COLLINS VALVE Co.
AKRON, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
Other INDUSTRIAL DIVISIONS of IBEC: The Bellows Co., Akron, Ohio Valvair, Akron, Ohio • V. D. Anderson Co., Cleveland, Ohio

▲ For more details circle **NED-229 D9** on enclosed inquiry slip ▲

LOW COST SOLUTION TO A THOUSAND PRODUCTION PROBLEMS...

Bellows
CONTROLLED-AIR-POWERED
HAN-D-MOTOR



1" stroke model. Also available with 2", 3" or 4" stroke.

CLAMPING
FEEDING
POSITIONING
EJECTING
TRIGGERING

The cost-cutting applications of the rugged little Han-D-Motor are limited only by man's ingenuity.

Consisting of an air cylinder with integrally-mounted solenoid valve, the Han-D-Motor is a complete work unit which mounts in any position, can be controlled by switches, relays, timers and similar electrical devices, provides thrust approximately equal to air line pressure, can be synchronized with any related operation.

Write for free Bulletin HD-20R. Address: The Bellows Co., Akron 9, Ohio, Dept. NED459.

Get complete information on Bellows Han-D-Motors and how they can cut costs in your plant.

1312-B

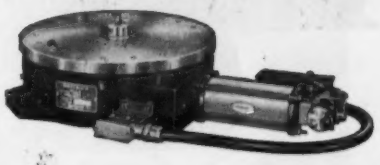
OTHER INDUSTRIAL DIVISIONS OF IBEC: Sinclair-Collins Valve Co., Valvair, Akron, O. V. D. Anderson Co., Cleveland, Ohio

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 9, OHIO

▲ For more details circle **NED-230 D9** on enclosed inquiry slip ▲

CUT COSTLY LOADING & UNLOADING TIME ON PRECISION OPERATIONS WITH

FAST ACCURATE AUTOMATIC



Bellows MODEL BRET 13B
ROTARY INDEX TABLES

For machine tool and production operations where extremely close tolerances are required in positioning work, this 13" diameter table can hold indexing accuracy up to .0005". Available with 4, 6, 9, 12 or 18 work stations, it can be readily interlocked with automatic loading and ejection devices and machine operating controls to convert production units to completely automatic operation.

Get complete specs on Model BRET 13-B ... and on 26" diameter Model BRET 26-B, too. Write today for free 12-page Bulletin RT-1326A. Address Dept. NED 459

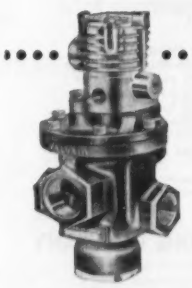
1316-B

OTHER INDUSTRIAL DIVISIONS OF IBEC: Sinclair-Collins Valve Co., Valvair, Akron, O. V. D. Anderson Co., Cleveland, Ohio

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 9, OHIO

▲ For more details circle **NED-231 D9** on enclosed inquiry slip ▲

split-second response . . . more work per hour . . . with VALVAIR® HI-SPEED INLINE VALVES



HI-SPEED INLINE with integral pilot, 2 or 3-way, N.O. or N.C., ⅜ to 1¼ in. NPT.

- solenoid coil guaranteed against burn-out for life of valve
- instant-action control • air-cushioned poppet
- multi-million cycle dependability • JIC pilot

Short poppet travel in Valvair's HI-SPEED INLINE provides maximum flow almost instantaneously. This shortens machine cycle time . . . lessens brake and clutch slip . . . provides more accurate cuts on high speed cut-offs . . . decreases set-up time . . . minimizes drift, for safer operation.

For increased production . . . lower costs . . . greater safety . . . specify Valvair HI-SPEED INLINE valves.

Write for free Bulletin D-58, Address: Valvair Corp., Akron 11, Ohio, Dept. NED 459.

Valvair AKRON 11, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

8006

Other INDUSTRIAL DIVISIONS of IBEC: The Sinclair-Collins Valve Co. The Bellows Co., Akron, Ohio • V. D. Anderson Co., Cleveland, Ohio.

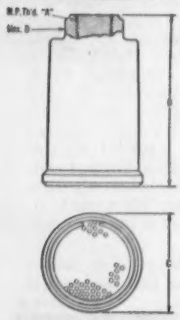
▲ For more details circle **NED-232 D9** on enclosed inquiry slip ▲

SCHRADER AIR EXHAUST MUFFLERS

. . . reduce unnecessary noise on exhaust port of valve, yet allow 97% of unmuffled flow.

This muffler acts very much like the silencer on a gun, reducing harsh whistling sounds to a purr. Eliminates need for piping air exhausts to outside of building. Less noise means less fatigue, and less fatigue means more production. Suppressed noise is an important part of good plant housekeeping and safety rules.

Complete details about these and hundreds of other Schrader Air Products are available in informative literature. Ask Schrader for answers to all your questions about air.



Schrader Number	A	B	C	D
3062	1/2	4 21/64"	2 1/4"	1 1/8"
3346	3/4	5 5/16"	2 7/8"	1 1/2"

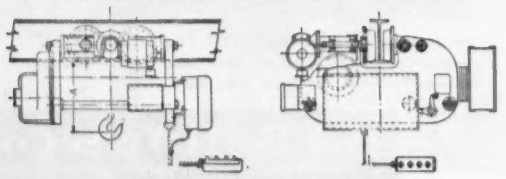
A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

Schrader®

▲ For more details circle NED-236 D9 on enclosed inquiry slip ▲

NEW "LOWS IN HANDLING COSTS...

benefit from Low Price, Low Headroom, Low Maintenance with the NEW LO-HED® 4-Wheel Motor Trolley Hoist



Just look at these headroom figures— they can't be beaten

Headroom*	Capacity	Height of Lift	Speed in FPM Hoist	Trolley
11 in.	1-1 1/2-2	20 ft.	15-35	45
14 in.	2-3	20 ft.	25-16	60
19 in.	3	15 ft.	18-24	45
15 in.	4	20 ft.	16	60
25 in.	5	15 ft.	14	60
26 in.	6	15 ft.	12	60

*Figures apply to hoists using A.C. current.

Check these features—no other comparable hoist offers as much

Trolley	Hoist
Steel construction	Straight line spur gear drive
Single speed	Heavy-duty roller bearings
Push-button control	Heavy-duty controller
110V pilot circuit	Heavy-duty hoist motor
Cast-steel drive wheels	Automatic holding brake
Tapered roller bearings	Automatic lowering brake

Available for both A.C. and D.C. — all voltages and frequencies.

Any way you look at it, you won't find a better hoist for your materials handling dollar. Send for details today — just fill out and mail the coupon.

AMERICAN ENGINEERING COMPANY
Wheatsheaf Lane and Sepviva Street
Philadelphia 37, Pennsylvania
Branch Offices in: Jersey City • Cleveland • Chicago

Canadian Subsidiaries:
Affiliated Engineering Corporations, Ltd.
Montreal, P.Q.

Bawden Industries, Ltd.
Toronto, Ont.

AE Products are:
TAYLOR, PERFECT SPREAD and VIBRA-GRATE STOKERS, HELE-SHAW and HYDRAMITE FLUID POWER, LO-HED HOISTS, LO-HED CAR PULLERS, MARINE DECK AUXILIARIES

To: American Engineering Company H-172
Wheatsheaf Lane and Sepviva Street
Philadelphia 37, Pennsylvania

I am interested in the new LO-HED. Please quote me the new "low" for a hoist with the following specifications:

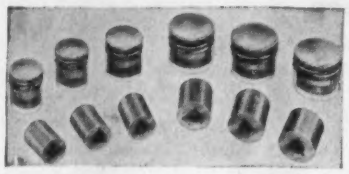
Capacity.....tons I-Beam Size.....
Current.....

Name.....
Title.....
Company.....
Street.....
City.....Zone ....State.....

DISTRIBUTORS AND AGENTS: Distributorships and agencies for Lo-Hed Electric Hoists are available in many parts of the country. If you are interested, call or write Ed Boyer, Sales Manager, A-E's Materials Handling Division.

▲ For more details circle NED-237 D9 on enclosed inquiry slip ▲

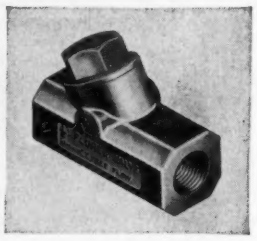
PLUG GAGES
line has 251 go and no-go members



Tolerance within ±0.00007 in. is claimed for line of reversible Tri-Lock plug gages, offered with 251 individual go and no-go 0.750 to 1-in. diameters in 0.001-in. increments. They are ground and lapped from oil-hardened Swedish type tool steel, heat treated to 63-65 Rockwell C, and stabilized. Size is engraved on each member which can be locked in a handle with Allen head socket screws. Price is $2.75 per member in lots of four or more. Made by **Dundick Tool Works, Inc.**, 3410 W. 31st St., Chicago 23, Ill.

▲ For more details circle NED-238 D9 on enclosed inquiry slip ▲

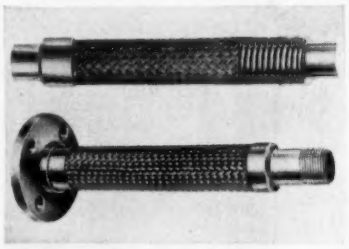
FLUID CONTROL VALVE
in 1/4, 3/8, and 1/2-in. sizes



Working with other components of a gas or liquid circuit, this Floreg valve controls the rate at which fluid can flow in one direction, yet allows free flow in the opposite direction. Valve is offered in 1/4, 3/8, and 1/2-in. sizes for working pressures up to 250 psi air and 500 or 2000 psi hydraulic. Temperature range is −40 to 200° F. Anodized aluminum, stainless steel, and plated steel parts afford corrosion resistance. Made by **Westinghouse Air Brake Co.**, Industrial Products Div., Box 36, Wilmerding, Pa.

▲ For more details circle NED-239 D9 on enclosed inquiry slip ▲

NOISE DAMPENING CONNECTORS
minimize vibration in pipelines



Stainless steel All-flex Vibration Tamers minimize vibration and dampen noise in a broad range of pipeline applications, as well as smooth out pulsations in pumping systems. High ductility units are rated up to 15,000 psi burst pressure and 1500° F. Scale formation is minimized in superheated steam, gas, or oil service at extreme temperatures. Standard units include tube or pipe ends for brazing or welding into tubing or pipelines, plus threaded and/or flanged ends. Any special or standard fitting can be supplied in standard pipe sizes from 1/4 to 12 in. Made by **Allied Metal Hose Co.**, 3796 Ninth St., Long Island City 1, N. Y.

▲ For more details circle NED-240 D9 on enclosed inquiry slip ▲

Powerful 1-2 Punch

K.O.'s HIGH WOOD-BLOCK FLOOR MAINTENANCE COSTS!

1 KRE-X SEMI-LIQUID FLOOR BOND

- Ready to use . . . easy to apply. Saves on labor, material, equipment.
- Resilient. Won't crack or chip.
- Quick setting.
- Safe . . . eliminates hot pitch hazards, tar burns.
- Cushioning action prolongs life of floor. Seals against moisture, oil, dirt. Permits limited block expansion.
- Can be applied on damp concrete.

2 PAC-A-BLOCK Palletized Floor Blocks

- Compactly strapped and shipped on disposable pallets.
- Cuts labor, handling and storage costs.
- Easy to handle, easy to install.
- Weather resistant covers for outdoor storage.
- Immediate shipment on orders of 25 to 400 sq. yds.

***WRITE TODAY** for Descriptive Bulletin*

Hayden-Shaw Mineral Products 7816 W. JEFFERSON AVE., DETROIT 17, MICH.

▲ For more details circle NED-241 D9 on enclosed inquiry slip ▲

Break the Cost Barrier and Eliminate Backbreaking Effort with . . .

AMERICAN Load-Lift Skid and Pallet Trucks

For easy handling of 2000, 3000, 4000 or 6000 lb. loads. It's industry's most economical way to handle skids and pallets. Write for New Catalog.

- 2000 lb. Pallet Truck
- 27" x 36"
- Semi-steel wheels
- Freight allowed

only $439.00

The American Pulley Company
PHILADELPHIA 29, PENNSYLVANIA

▲ For more details circle NED-242 D9 on enclosed inquiry slip ▲

DEMING "MOTOR-MOUNT" CENTRIFUGAL PUMPS

STAINLESS STEEL SHAFT SLEEVE protects pump shaft and insures longer life

Pumps range from 1 1/2" to 5" discharge...capacities to 1200 gallons per minute with 1-40 H. P. motors. Write for Bulletin No. 4200-A.

Just one of the many Deming pump features that provide longer life and lower operating costs

The DEMING Co.
406 BROADWAY • SALEM, OHIO

▲ For more details circle NED-243 D9 on enclosed inquiry slip ▲

Wipco Wire Partitions
FIT ANY AREA

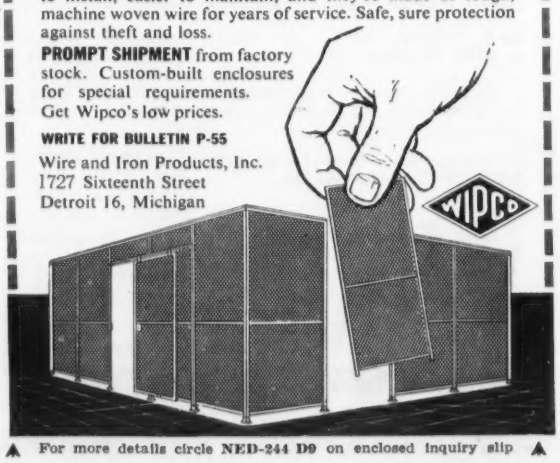
MOVEABLE—REUSABLE—FLEXIBLE! Standard sections in a variety of sizes for stock rooms, tool rooms, runways, etc. Each section a complete unit ready for erection. No special tools . . . no special crews. Your men install Wipco partitions quickly and easily. Future changes? Just disassemble and re-locate!

COST LESS THAN WOOD FRAMING AND WIRE NETTING Cheaper to install, easier to maintain, and they're made of tough, machine woven wire for years of service. Safe, sure protection against theft and loss.

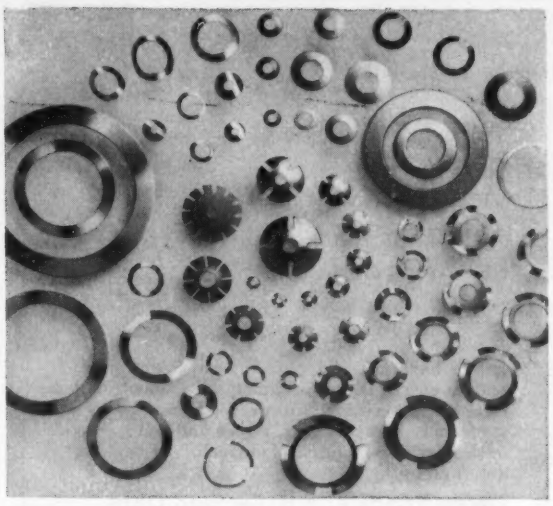
PROMPT SHIPMENT from factory stock. Custom-built enclosures for special requirements. Get Wipco's low prices.

WRITE FOR BULLETIN P-55

Wire and Iron Products, Inc.
1727 Sixteenth Street
Detroit 16, Michigan



▲ For more details circle NED-244 D9 on enclosed inquiry slip ▲



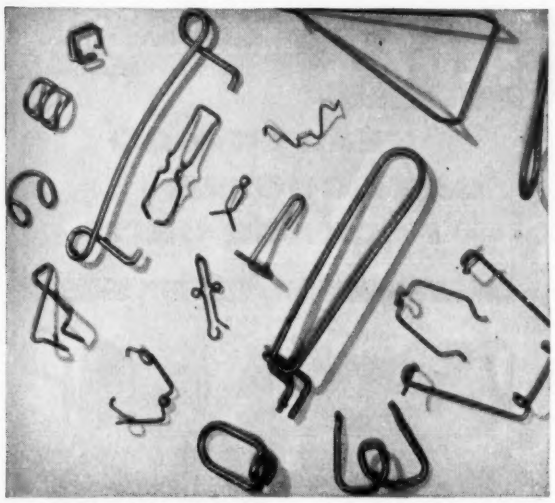
Spring Washers

Thousands of tools available for production of your washers—slotted, finger, star, cupped, wavy, etc. Also belleville washers for use as springs in limited space. Save tool charges. Send for list of tool sizes ready to meet your requirements.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5830

For more details circle NED-245 D9 on enclosed inquiry slip



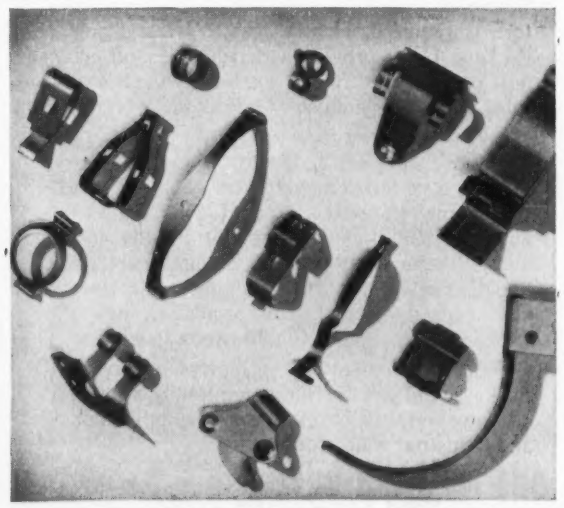
Wire Forms

Years of specialized experience in producing clips, clamps, collars, snap rings, retainers, bearing rings—or any wire form. Automatic or manual production determined by size of order. Let us analyze your design for economical production.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5824

For more details circle NED-246 D9 on enclosed inquiry slip



Flat Springs

Made from our cold-rolled specialty steels or the material of your choice. Ingenuity of tool design and versatile forming equipment combine operations and simplify production. Exceptionally varied experience in this class of work. Send samples or specifications for quotation.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5820

For more details circle NED-247 D9 on enclosed inquiry slip

MULTISPINDLE DRILL HEAD
for drilling, tapping, reaming in a circle, straight line, or pattern

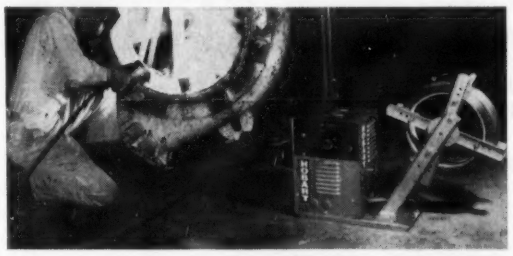
Any single-spindle drilling machine can be converted for single-pass, multihole work with the Pneumatic/Johnson multispindle drill head. Drilling, tapping, reaming, and countersinking can be done in a circle, straight line, or random pattern, with centers as close as 11/16 in. Spindle locating arms are mounted with two T-bolts in milled T-slots on 8 and 10-in. diameters. Extra spindles are easily added up to maximums of 6, 8, 10, and 12 in. for the four drill head sizes available. Morse taper shanks are standard.

Zerk fittings on the outer ends of the spindle arms facilitate lubrication. Universal joint components which drive the spindles are hexed at each end so as to snap into engagement without using tools. Head mounts in any position, and the hardened gears run in an oil bath within a neoprene-sealed gear box. A 1:1 gear ratio is standard, although other ratios can be specified. Made by **Cleveland Pneumatic Industries, Inc.**, Industrial Sales Div., 64 Old Orchard, Skokie, Ill.

For more details circle NED-248 D9 on enclosed inquiry slip

SEMIAUTOMATIC WELDER
for hardsurfacing or submerged arc use with tubular or solid wires

Handomatic portable semiautomatic welder can be connected to almost any welding machine, either direct or alternating current. A universal wire feeder



is designed for hardsurfacing, build-up, and mild steel welding using tubular or solid wires and open arc or submerged arc processes. Operation requires only connecting the welding cables and one ground wire. A single rheostat controls the wire feed speed.

Feed rolls, pressure rolls, and current tips are available for 5/64 and 3/32-in. solid hard wire and 3/32 and 7/64-in. tubular or fabricated wire. Machine can be used with continuous current up to 500 amp using the flux type or open arc gun. Flux hopper holds 5 lb. Wire speed range at nominal 30 v is 60 to 260 ipm; an optional gearbox provides 90 to 460 ipm at 30 v. Made by **Hobart Brothers Co.**, Hobart Square, Troy, Ohio.

For more details circle NED-249 D9 on enclosed inquiry slip

Now you can select compression or extension springs from hundreds of ready-to-use, standard-specification sizes. No blueprints or drawings necessary. Simply match your requirements to the Select-A-Spring list, and order by catalog number.

Select-A-Springs are made from stainless steel or music wire certified to military and aircraft specifications, in lengths, diameters, rates, and loads up to 20 lb. Compression springs are squared and ground. Extension springs have regular loops.

Write now for the A.S.C. Select-A-Spring list. Gives full details.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5810

For more details circle NED-250 D9 on enclosed inquiry slip

Power Springs

A.S.C. Divisions are unusually well equipped for the manufacture of flat spiral and motor springs. Made from our own cold-rolled specialty steels or other suitable metal, they can be furnished in sizes and methods of end attachment to meet your requirements. Write for handy pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5826

For more details circle NED-251 D9 on enclosed inquiry slip

Engineering, manufacturing, and sales facilities located coast-to-coast for custom service on all your requirements

BRISTOL, Conn.
Wallace Barnes Division
Dunbar Brothers Division
F. N. Manross and Sons Division

SYRACUSE 9, N. Y.
Wallace Barnes Division
State Fair Boulevard

CORRY, Pa.
Raymond Manufacturing Division

HAMILTON, Ontario, Canada
The Wallace Barnes Company Ltd.
274 Sherman Ave. North

MONTREAL, Quebec, Canada
The Wallace Barnes Company Ltd.
Nordic Ave. at Hymus Blvd.
Pointe Claire

CLEVELAND 23, Ohio
Sales Office
22700 Shore Center Avenue

DAYTON 3, Ohio
Ohio Division
1825 East First Street

PLYMOUTH, Mich.
B-G-R Division
40300 Plymouth Road

ANN ARBOR, Mich.
B-G-R Division
401 East Stadium Boulevard

CHICAGO 14, Ill.
Gibson Division
1800 Clybourn Ave.

MILWAUKEE, Wis.
Milwaukee Division
341 East Erie Street

LOS ANGELES, Calif.
Seaboard Pacific Division
15001 South Broadway
Gardena, Calif.

SAN FRANCISCO, Calif.
Sales Office
19031 Saratoga Glen Place
Saratoga, Calif.

Wallace Barnes Steel Division
Bristol, Conn.
High Carbon Strip Steel

Associated Spring Corporation
General Offices
Bristol, Connecticut

HOW TO GET BETTER ELECTRICAL CONTACTS

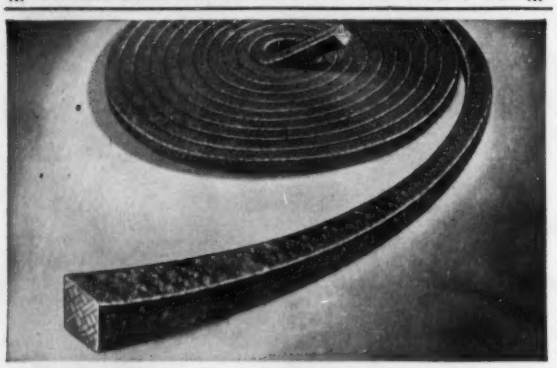
Stackpole Custom-Engineered powdered metal contacts assure maximum efficiency—*because they are specifically mixed and processed for the specific equipment in which they are to be used.* Unique contact attachment methods frequently simplify equipment designs, reduce costs. Send details of your contact problem for recommendation. (Stackpole Contacts are sold for original equipment only, not as replacements.)

STACKPOLE CARBON CO., *St. Marys, Pa.*

STACKPOLE
Custom-Engineered
CONTACTS

Hundreds of grades in SILVER-GRAPHITE SILVER-LEAD OXIDE • SILVER-NICKEL SILVER-MOLYBDENUM • SILVER-TUNGSTEN COPPER-GRAPHITE • SILVER-IRON OXIDE and other special material combinations.

▲ For more details circle **NED-252 D9** on enclosed inquiry slip ▲



Solve Your Pump Downtime Problems...

...with Garlock LATTICE-BRAID* Packings. Each strand passes diagonally through body of packing at a 45° angle. This through-and-through braiding assures unified structure of greater strength. The braiding holds together far longer than other packings. Result: *longer life, less downtime.*

Garlock furnishes LATTICE-BRAID in many sizes and styles to meet all your needs. Call the Garlock sales office in your area or write for Catalog AD-131.

THE GARLOCK PACKING COMPANY, Palmyra, N. Y.

For Prompt Service, contact one of our 30 sales offices and warehouses throughout the U.S. and Canada.

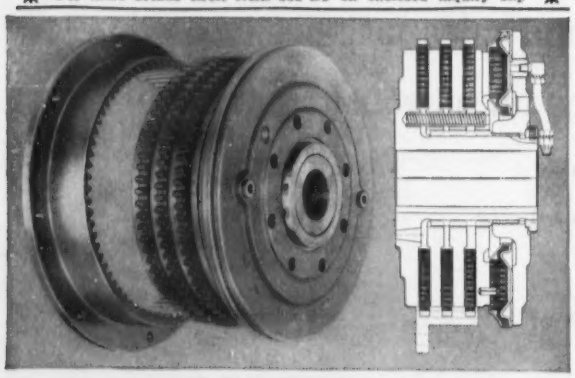
*Registered Trade Mark

GARLOCK

Packings, Gaskets, Oil Seals, Mechanical Seals, Molded and Extruded Rubber, Plastic Products

Canadian Division: The Garlock Packing Co. of Canada Ltd. • Plastics Division: United States Gasket Company

▲ For more details circle **NED-253 D9** on enclosed inquiry slip ▲



New low-cost air clutches — for *all* applications!

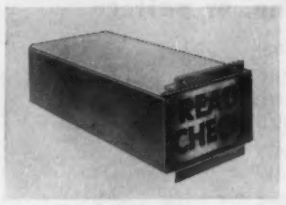
Three new Twin Disc PO Air Clutches! 8", 10", 11½" sizes! Triple-plate, double-plate or single-plate construction! Cost up to 40% less than comparable makes! Design features exclusive cartridge-type diaphragm of long-lasting neoprene reinforced with nylon . . . permits uniform contact—always . . . eliminates leakage! Self-compensating for wear . . . no adjustments required — ever! Narrow width permits replacement of band and drum clutches. Twin Disc now offers PO Air Clutches from 8" to 36", torque capacities to 126,600 lb.-ft.

TWIN DISC
Friction Clutches and Fluid Drives

TWIN DISC CLUTCH CO. • Racine, Wisconsin

▲ For more details circle **NED-254 D9** on enclosed inquiry slip ▲

MULTI-MESSAGE DISPLAY
all messages flashed on one screen



Any one of a number of messages can be selected and displayed on the common viewing screen of this lenticular optical multi-message display unit by lighting a single miniature incandescent bulb. No lens projection system is used and there is no interference between messages, making possible instantaneous switching from one message to another. Device is also capable of visually presenting digits, letters, words, charts, or photographs. Type LD-22 unit displays 16 messages on a common 2¼ x 2¼-in. viewing screen and Type LD-35 unit displays 20 messages on a 3 x 5-in. screen. Both are self contained and designed for remote operating from any switching system. Over-all depths are 6⅝ and 11⅜ in., respectively. Made by **Burroughs Corp.,** Electronic Tube Div., Box 1226, Plainfield, N. J.

▲ For more details circle **NED-255 D9** on enclosed inquiry slip ▲

SAMPLING BOB
takes undisturbed liquid sample

Accurate, undisturbed samples of liquids held in bulk storage can be taken from any level with this sampling bob. Clear plastic unit at left is for sampling light products with low viscosities, whereas brass cylinder unit at right is used to sample heavier, high viscosity liquids up to 200° F. Sensitive butterfly wing valves at each end of the cylinder open wide as bob is lowered into liquid and remain so during downward movement. When cylinder stops, valves close, trapping an undisturbed sample of liquid from that level. A drain hole above the top valve, a U-shaped thermometer inside, and a special funnel for pouring out the sample are provided. Bob is made in 1/5, 1, 1½, and 2-qt sizes by **Johnston & Jennings Co.,** Oceco Div., 6917 Bessemer Ave., Cleveland 27, Ohio.

▲ For more details circle **NED-256 D9** on enclosed inquiry slip ▲

Hose Couplings & Fittings

Hose Accessories Co.—Essential information on a variety of Le-Hi hose couplings and fittings for every type industrial rubber hose is presented in 8-page Catalog 34. Hose couplings, hose clamps, valves and manifolds, hose nipples, and re-usable hydraulic couplings are covered.

▲ For more details circle **NED-257 D9** on enclosed inquiry slip ▲

Don't ruin a valuable piece of equipment merely because some part is rusted tight. Apply Kroil, the amazing new chemical lubricant that creeps into millionth inch spaces (proved by laboratory tests), dissolves rust, supplies necessary lubrication and

LOOSENS FROZEN PARTS

18,000 of America's leading plants can't be wrong! They have used KROIL for 10 years and are still depending on it to save expensive labor and valuable parts. They say: "Kroil loosened bushings after a 12-ton press had failed" . . . "on repairing heat treat trolleys formerly destroyed every nut. Now Kroil saves them all, and time, too" . . .

You too should be using KROIL every day. Try it on money-back basis. Gallon $4.00; with Kroiler trigger squirt gun (shoots a drop or a stream 15 feet, if desired) $4.95, f. o. b. our factory.

KANO LABORATORIES 1074 Thompson Lane, Nashville 11, Tenn.

KANO LABORATORIES

▲ For more details circle **NED-258 D9** on enclosed inquiry slip ▲

"Do you have the NEW CATALOG OF SWECO VIBRATING SCREEN SEPARATORS?"

It tells how SWECO Separators are saving time and money in such diversified fields as petroleum, chemical processing, mining, food processing, stone, clay and ceramics, paper and pulp, drugs, feed, fertilizers, paint and varnish, and many others.

Gives Specs and Screening Data

It shows pictures and describes 22 different models – including 18", 30", and 48" diameter units for high capacity and continuous operation. Also gives case studies and details about SWECO's application engineering and demonstration services.

Write for your copy today!
Ask for Catalog S-301-175

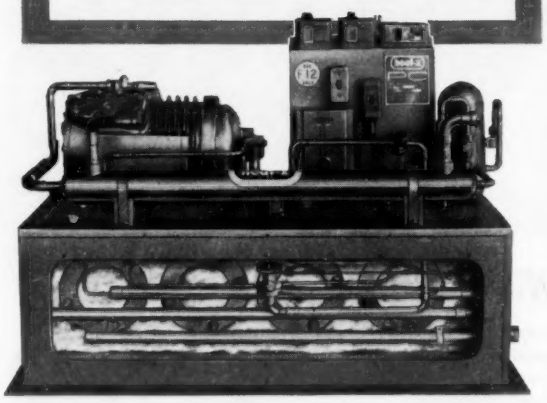
SWECO SEPARATORS

Southwestern Engineering Company
4800 Santa Fe Avenue, Los Angeles 58, California
Engineers and Constructors . . . Manufacturers

▲ For more details circle **NED-259 D9** on enclosed inquiry slip ▲

heat-x

READY-TO-GO CAST COOLER PACKAGE UNITS



for cooling process water – other low viscosity liquids

Where large volume of water at low temperature is required, Heat-X "CCP" Cast Cooler Package Units provide a dependable and economical supply. "CCP'S" are widely used in the food processing industry, in bakeries, bottling plants, etc.

"CCP" units are ready to "plug-in" . . . are factory tested before shipment, charged with refrigerant. Capacities from 1/3 to 10 H.P. Stainless steel circuits for cooling Freons, cooling kerosene, light oils or slightly corrosive liquids. Individual cast aluminum coolers provide rugged strength for protection against freeze-up damage. High hold-over capacity.

Heat-X manufactures a complete line of Package Chillers for air conditioning systems, drinking water or beverage cooling applications and industrial water cooling.

Send For Bulletin 8024

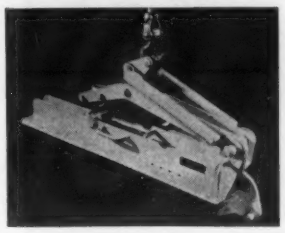
DUNHAM-BUSH

HEAT-X, Inc.
SUBSIDIARY OF DUNHAM-BUSH, INC.
BREWSTER, NEW YORK

▲ For more details circle **NED-260 D9** on enclosed inquiry slip ▲

▲ For more details circle NED-261 D9 on enclosed inquiry slip ▲

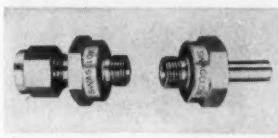
COIL TONGS
used where headroom is limited



Coils from 6 to 40-in. OD and 5 to 20-in. ID can be handled under conditions of limited headroom with these manually adjusted vertical coil tongs. Height of 17 in. when latched open to receive a load is increased only 7 in. while lifting the load. Vertical lever extension is the same with all coil wall thicknesses. Coil is gripped with a pressure about six times its weight. Tongs will lift ferrous and nonferrous coils weighing up to 1000 lb, but can be produced in other sizes for lifting up to 3000 lb. Made by **Heppenstall Co.**, Fifth Avenue & 16th Street, New Brighton, Pa.

▲ For more details circle NED-264 D9 on enclosed inquiry slip ▲

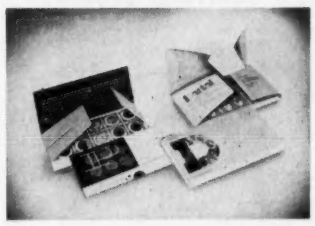
O-RING SEAL FITTING
for pressure or vacuum connections



O-ring seal of this Swagelok fitting is built integrally into the body of the fitting. When tightened against its mating surface, the O-ring prevents even minute leaks. Fitting can thus be used for pressure connections or high vacuum applications. Designed for use in standard female pipe thread connections, the Swagelok O-Seal pipe thread male connectors and adapters can be installed quickly with a wrench, without counterboring. They are offered in all machinable metals and plastics in 1/16 to 1-in. OD tubing sizes. O-ring seal is available in various materials to specification. Made by **Crawford Fitting Co.**, 884 E. 140th St., Cleveland 10, Ohio.

▲ For more details circle NED-265 D9 on enclosed inquiry slip ▲

UNIT PACKAGES
for mailing liquids, powders



Products in liquid, solid, or powder forms can be sealed and protected for mailing in small quantities in the Super-Sealtite Unit-Package. Sealed in polyethylene, Saran, Cellophane, Pliofilm, glassine, foil, or other heat-sealing material, units are joined and placed in addressable, self-contained Unit-Packages. Perforations allow quick separation, and tear notches facilitate opening. Each unit is sanitarily sealed in polyethylene. Very fragile products are packed with additional corrugated cushioning; less fragile products require only the shock-absorbing Cushion-Pad. Either type is available in almost any size. Developed by **Ivers-Lee Co.**, 215 Central Ave., Newark, N. J.

▲ For more details circle NED-266 D9 on enclosed inquiry slip ▲

▲ For more details circle NED-267 D9 on enclosed inquiry slip ▲

▲ For more details circle NED-262 D9 on enclosed inquiry slip ▲

▲ For more details circle NED-268 D9 on enclosed inquiry slip ▲

Why slow up the job with "special" gears?

Select the gears you need from over 2000 types and sizes listed in the BOSTON Gear Catalog — then order for prompt delivery from your nearby BOSTON Gear Distributor. There is nothing finer than BOSTON Gear quality, and you save time and money in planning, purchasing, and production. Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

CALL YOUR BOSTON Gear DISTRIBUTOR

For nearest Distributor LOOK UNDER "GEARS" in the 'Yellow Pages'

▲ For more details circle NED-263 D9 on enclosed inquiry slip ▲

▲ For more details circle NED-269 D9 on enclosed inquiry slip ▲

No more drudgery for me in cleaning grease-caked floors

Flip of switch re-sharpens brushes automatically!

His boss is happy too . . .

and should be. A Finnell 84XR Dry-Scrubber does the job in about one-tenth the time required to hand-scrape the floors, and spares maintenance men the back-breaking effort of manual methods. Two powerful scarifying brushes, with total spread of 22 inches, quickly loosen coatings of dirt, oil, grease, and shavings. Interchangeable rings and brushes adapt the machine to wet-scrubbing, polishing, and steel-wooling. (The Vac illustrated, *Finnell's 10C,* has 1½ hp By-Pass Motor. Tank holds 12 gallons *wet,* 1¼ bushels *dry.*) For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5504 East St., Elkhart, Ind.

Brushes adjust to floor irregularities

FINNELL SYSTEM, INC. Originators of Power Scrubbing and Polishing Machines — FINNELL — BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-270 D9 on enclosed inquiry slip ▲

ACCURATE WEIGHT AT A MODEST PRICE

- Calibrated with **Certified** dead weights.
- 16" diameter dial. Easy to read—easy to see.
- Ball bearing swivel hook. 360° rotation.
- Dial protected with thick plastic crystal.
- Weighs only 42 lbs. May be carried in one hand.
- Operates on leverage principle. Scientifically correct!
- Rapid adjustment to cancel out tare loads.
- Shockless mechanism. No pointer flutter.
- Compact size. Uses a minimum of headroom.
- **Lowest** price despite **outstanding** quality.
- Capacities to suit every requirement.

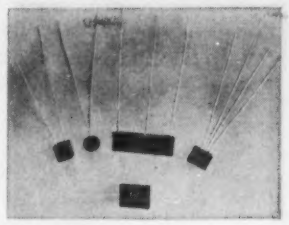
Write Today!

FREE CATALOG shows prices and capacities and tells how YOU can save up to 22% on labor costs.

W.C. Dillon & CO., INC.
14578NE KESWICK STREET • VAN NUYS 1, CALIFORNIA
PHONE: STATE 5-3168

▲ For more details circle NED-271 D9 on enclosed inquiry slip ▲

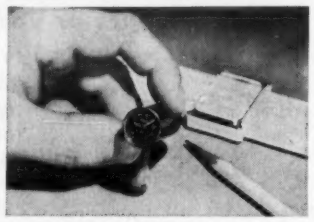
MINIATURE RECTIFIERS
selenium units are potted



Wide range of voltage and current ratings is available in the ABC Series of miniature, low cost selenium rectifiers. Usable in half or full-wave, single, or three-phase rectifier circuits, the potted units meet limited space requirements. Dimensions depend upon specific ratings. Variety of terminal arrangements makes the units suitable for printed and other circuits. Made by **Radio Receptor Co.,** Semiconductor Div., 240 Wythe Ave., Brooklyn 11, N. Y.

▲ For more details circle NED-272 D9 on enclosed inquiry slip ▲

ELAPSED TIME INDICATOR
1.2-oz unit requires less than 1 w



A tiny, single-phase synchronous motor and a jeweled gear train with a 180-million-to-1 ratio are incorporated in this micro-miniature elapsed time indicator. It registers at a glance the amount of time critical electronic and electromechanical devices have been in operation. Unit is 1.415 in. long, has 0.665-in. diameter, and weighs 1.2 oz. It requires less than 1-w power. Present models record up to 1000 hr. Indicator will withstand vibration of 10 G to 500 cps, temperatures from −40 to 165° F, and shock up to 15 G. An internal reset and a hermetically sealed case are featured. Made by **Elgin National Watch Co.,** Elgin-Micronics Div., 366 Bluff City Blvd., Elgin, Ill.

▲ For more details circle NED-273 D9 on enclosed inquiry slip ▲

CIRCULATING PUMP
sanitary type for varied uses

Motors developing 1/35 and 1/20 hp are available on Type X sanitary circulating pump for ice makers, residential water-cooled condensers, and pumping photographic hypo, mild acids, liquid food, water, and mild alkalies. It has a linear polyethylene pump housing and impeller, stainless steel cover and motor shaft, and large Buna rubber lip seal. Liquid being pumped contacts only the polyethylene housing and stainless steel. Parts are removed and replaced by hand for cleaning. Pump is available with ½ or ⅝-in. OD inlets and outlets, either straight or angled. Capacities over 400 gph are offered. Made by **March Mfg. Co.,** 8015 N. Lawndale Ave., Skokie, Ill.

▲ For more details circle NED-274 D9 on enclosed inquiry slip ▲

Quit Chasing Strays!

GO MAGNETIC with... Magna-tip®

Magnetic Screw Driving Accessories

Dropping and fumbling . . . chasing stray screws, nuts and bolts . . . are bound to slow assembly operations when you use old-fashioned driving methods. Magna (Permanently Magnetic) bit holders, finders and sockets fit all power screw drivers. They help push production up and costs down by holding screws, nuts and bolts securely for smooth, speedy work. Ask your power screwdriver salesman for details.

WRITE for manual on the complete line of Magna-tip bit holders, finders, sockets and hand screwdrivers. Dept. 81G3, Magna Driver Corp., 779 Washington St., Buffalo 3, N. Y.

▲ For more details circle NED-275 D9 on enclosed inquiry slip ▲

HIGH-UP SECURITY gets jobs done faster!

BALLYMORE "Hi-boy" LADDERS

have exclusive PYRAMID design and automatic BALLYLOCK floor locking

ALL-WELDED STEEL FOR REACHING HEIGHTS UP TO 15 FEET

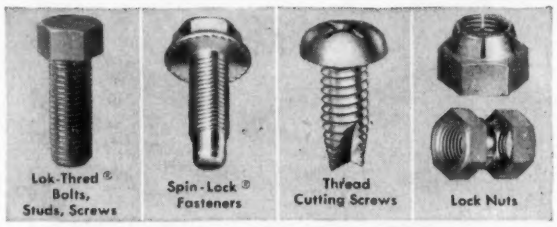
For complete information, write:
BALLYMORE COMPANY
WEST CHESTER 3, PA.

BALLYMORE
EQUIPMENT FOR ABOVE-FLOOR SAFETY

LOOK FOR THIS LABEL TO BE SURE IT'S THE BEST — BALLYMORE COMPANY WEST CHESTER, PA. Ballymore

▲ For more details circle NED-276 D9 on enclosed inquiry slip ▲

Your one source is NATIONAL for STANDARD or SPECIAL FASTENERS



Regardless of your fastener requirement National can save you time and trouble. *Write* for National's Special Products booklet, or for information on the fastening specialty that interests you.

THE NATIONAL SCREW & MFG. CO. • CLEVELAND 4, OHIO
Pacific Coast: National Screw & Mfg. Co. of California
3423 South Garfield Ave., Los Angeles 22, California

National PRODUCTS — Fasteners — Hodell Chains — Chester Hoists

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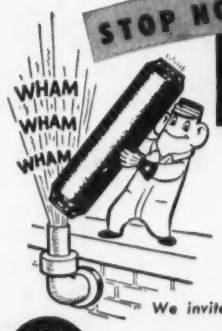
LET US TAKE YOUR NOISE AND PULSATION PROBLEMS OFF YOUR HANDS

It is our engineering specialty to

STOP PULSATION —from surges created by compressors, pumps, blowers and pressure reduction systems.

STOP NOISE —from intake or discharge of air, steam or gas from engines, compressors and vacuum systems.



The Burgess-Manning Snubbing Principle, engineered to your specific problems, will provide noteworthy savings in operating and installation costs, increased production, reduced maintenance, improved public and employee relations and prevention of compensation claims.

We invite you to present your problems for recommendations.

BURGESS-MANNING COMPANY
Sound Engineering
9227 Sovereign Row, Dallas 35, Texas
Libertyville, Illinois

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NEW-

Sutorbilt Bulletin Helps You Match Blower to Job

To help you in choosing the right rotary positive-pressure blowers and gas pumps, Sutorbilt bulletin S-59G offers a valuable guide. It gives you complete, fully-illustrated information on the California series of the Sutorbilt line types, sizes, displacements, performance characteristics. Photographs show details of drive mechanisms, valves, timing gears, thrust bearings, etc. Here, graphically, is the "what" as well as the "how" of Sutorbilt's outstanding blower performance. Capacities to 1600 c.f.m.; pressures to 10 psig and vacuums to 20" Hg. 1167 S-14

Send today for this interesting Sutorbilt booklet on blowers.

SUTORBILT IS WELL BUILT CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF. SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.

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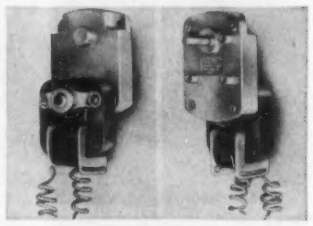
SLOW SPEED MOTOR
gear train protected by housing



Gear train of the F Series slow speed motors is shielded by a heatproof, splashproof, and shatterproof housing. The fractional horsepower motors are designed to power small electrical appliances, motion displays, vending machines, and small industrial devices. Made by **Brevel Products Corp.**, 601 W. 26th St., New York 1, N. Y.

▲ For more details circle NED-282 D9 on enclosed inquiry slip ▲

TANTALUM CAPACITORS
in 6, 10, 15, 20, and 35-v ratings

Capacitance range is 2.2 to 47.0 mfd and standard tolerance is ±20 per cent for these solid electrolyte tantalum capacitors offered in 6, 10, 15, 20, and 35-v ratings. The hermetically sealed, military type capacitors have a temperature range of −55 to 85° C. Case size is 0.175 x 0.438 in. Low direct current leakage does not exceed 0.04 microampere per mfd-volt or 2 microamperes, whichever is greater. Made by **Magnavox Co.**, Dept. N. P., 2131 Bueter Rd., Ft. Wayne 4, Ind.

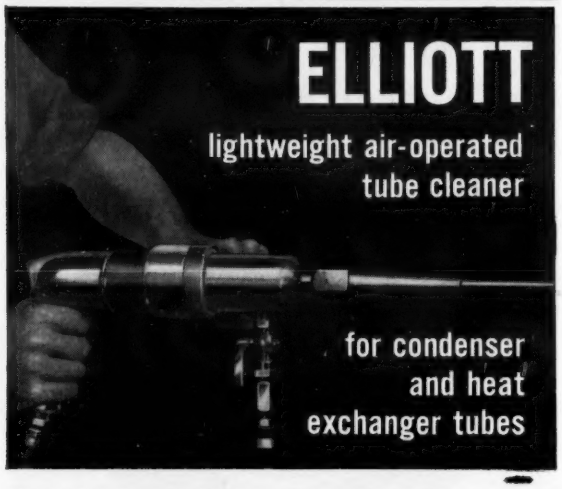
▲ For more details circle NED-283 D9 on enclosed inquiry slip ▲

INSPECTION TABLE
checks hole location in templates

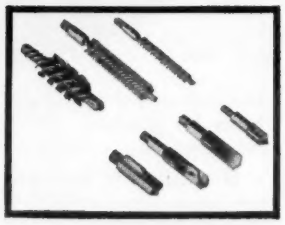
Location of holes in templates, jigs, fixtures, and other flat sheet-metal work can be checked to within 0.0005 in. on this inspection table. Hole center line distances on X and Y coordinates from two edges of the sheet are optically read directly from decimally graduated scales at a rate of one to three holes per minute. Material up to 36 x 42 in. can be inspected easily. A stylus is inserted into each hole to be inspected, and centerline dimensions are read from the edges of the sheet. Scales are graduated to 0.050 in. Made by **Wiedemann Machine Co.**, Dept. 810, Gulph Road, King of Prussia, Pa.

▲ For more details circle NED-284 D9 on enclosed inquiry slip ▲

ELLIOTT
lightweight air-operated tube cleaner



Pistol-grip, easy to handle. High-speed air-driven motor, trigger control, gear reduction to 1500 rpm. Speed governor prevents shaft whip. Built-in oil reservoir. Integral water-feeding attachment. Brushes and heads (right) for various cleaning requirements. Send for bulletin Y-48—covers all Elliott tube cleaners and accessories.



ELLIOTT Company
LAGONDA PLANT, Springfield, Ohio V9 2

▲ For more details circle NED-280 D9 on enclosed inquiry slip ▲

Choose from LINK-BELT's

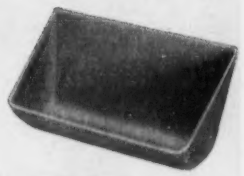
long line of long-life elevator buckets

CAST AND FABRICATED MALLEABLE STEEL

Versatility keynotes Link-Belt's line of steel buckets. HS type is designed for high-speed, maximum capacity. High ends minimize spillage . . . low lip facilitates pickup. Salem buckets are shaped for handling granular or powdered, free-flowing materials. Continuous buckets offer clean discharge at low speeds of stone, ore and other bulky, gritty materials.

For complete details on these all-welded buckets, contact your nearest Link-Belt office or authorized stock-carrying distributor. Write for Book 1050.

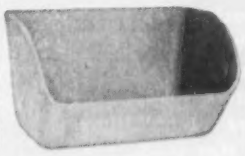
STYLE AA — Recommended for heavy, gritty materials such as sand, gravel, stone. Has a reinforced lip for digging and added wear life.



STYLE B — Used on inclined elevators handling coarse materials. Low front design assures clean discharge at relatively low speeds.

STYLE C — Designed for easy, efficient handling of finely pulverized or wet materials that have a tendency to stick or pack.

STYLE D — This continuous bucket provides clean, gentle handling of coal, sand, gravel, crushed stone and other dry materials.



STYLE SC — Ideal for elevating either dry or relatively wet materials. Can handle greater capacities than styles A or C.

Correct bucket choice is a head start to low-cost elevating. And you'll find Link-Belt has cast buckets *exactly suited* to your material and capacity needs.

Link-Belt cast buckets are available in wear-resistant malleable iron or Promal. Corners are specially reinforced. Smooth surfaces, proper proportioning and rounded corners assure fast pickup, clean discharge. For complete details, write for Book 1050.

LINK-BELT
ELEVATOR BUCKETS
LINK-BELT COMPANY, Prudential Plaza, Chicago 1, Ill. 15,069

▲ For more details circle NED-285 D9 on enclosed inquiry slip ▲

Clark brings you an entirely new Electric fork truck -

SMOOTH ACCELERATION – POSITIVE INCHING CONTROL UNDER ALL OPERATING CONDITIONS

Clark's new Electric fork truck delivers smooth, stepless acceleration . . . provides the exact amount of power necessary for either ramp and dock board work, for congested areas, or when inching. Clark's infinitely variable speed control delivers torque in just the right amount to suit working conditions . . . gives your driver perfect control of his truck at all times for maximum safety and efficiency.

For full details and specifications on the all-new Electric *Clarklift*, simply circle the reader service card.

Clarklift is a trade-mark of Clark Equipment Company

Industrial Truck Division
Clark Equipment Company
Battle Creek 21, Michigan

CLARK® EQUIPMENT

▲ For more details circle NED-281 D9 on enclosed inquiry slip ▲

HOW TO ENGINEER SPECIFY ORDER PRICE...

HYDRAULIC CYLINDERS

Here is complete engineering data on Hannifin's newest line of hydraulic cylinders. Every mounting style is fully dimensioned in all sizes. Standard models or special modifications are made easy to specify. The price sheet, too, is easy to understand, easy to use.

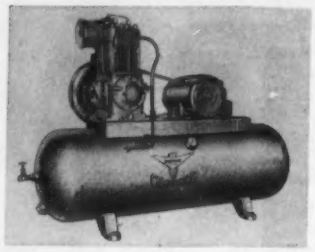
Write for Bulletin 113-B.

HANNIFIN

Hannifin Company, 527 South Wolf Road, Des Plaines, Ill.
(Hannifin Company is a division of Parker-Hannifin Corporation)

▲ For more details circle NED-287 D9 on enclosed inquiry slip ▲

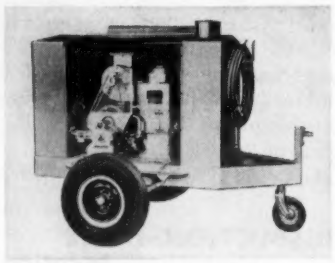
AIR COMPRESSORS
over 200 models from 1/4 to 20 hp



Both horizontal and vertical mounted tank models in this line of air compressors are equipped for automatic start and stop operation. Horizontal models also offer continuous service operation. All models are loadless starting. The line of reciprocating compressors includes over 200 models with motor or engine capacities from 1/4 to 20 hp, air displacement up to 92 cfm, and tank capacities to 200 gal. Other features are balanced four-ring automotive pistons, drop forged crankshaft, Lynite connecting rods, oversize main roller bearings, and rotary or piston type oil pump for contant lubrication. Made by **Lincoln Engineering Co.**, 4010 Goodfellow, St. Louis 20, Mo.

▲ For more details circle NED-289 D9 on enclosed inquiry slip ▲

STEAM CLEANER
500 gph unit delivers 600 lb of steam per hr



Upgrader Intermediate steam cleaner with 500 gph capacity augments line of 80, 200, and 1500 gph units. Mud and snow removal from trucks and construction machinery, degreasing and cleaning rolling stock and machinery, and paint stripping are among its uses. Steam combined with cold water in an injector both heats the water and forces it through the hose and lance at 250 psi, double the original steam pressure. A detergent solution can be added through the injector from an optional tank. "Hot mist" feature allows cleaning delicate equipment.

With an output of 600 lb of steam per hour and a rating of 17 bhp, the unit can be used as a source of emergency steam. Cleaner is available on a three-wheel trailer mount, a four-wheel type for limited movement, and skid mounted. Portable models are oil-fired, whereas stationary units can be gas or oil fired. Made by **Vapor Heating Corp.**, 80 E. Jackson Blvd., Chicago 4, Ill.

▲ For more details circle NED-290 D9 on enclosed inquiry slip ▲

Fractional Horsepower Motors

Bodine Electric Co.—Revised 12-page Bulletin S-1 lists 300 standard stock reducer and nonreducer motors of various types and sizes. Nonreducer units listed range from 1/7 to 1/1500 hp, whereas reducer units, with speeds from 833 to 0.7 rpm, have torques of 12.8 oz-in. to 219 lb-in.

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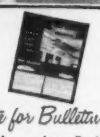
Get safe, maintenance-free plant heating with

Perkins AIRadiators operate on hot water or steam up to 150#. No motors, fans, or other moving parts that can cause sparking, or wear out—Perkins AIRadiators are maintenance-free, built to last the life of your plant. Heat is evenly distributed—quietly, without drafts or hot blasts.



Write for Bulletin V

. . . Learn how Perkins AIRadiators can give you better plant heating—at low cost.

SHAW PERKINS MFG. CO.

Properly Designed Room Heat Distribution Equipment

201 E. CARSON ST., PITTSBURGH 19, PENNA.

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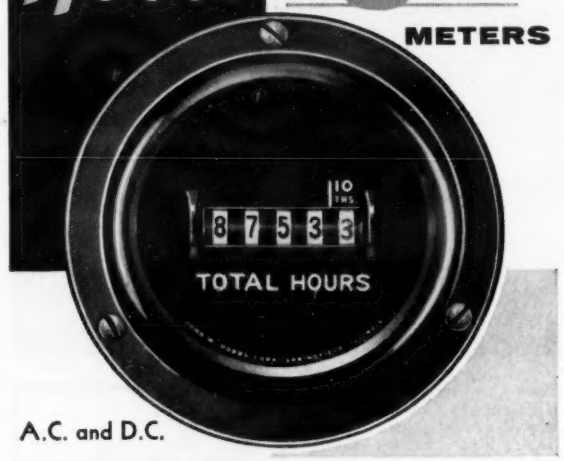
Hobbs INDUSTRIAL HOUR METERS



A.C. and D.C.

Indicate actual operating time — the only effective basis for machine utilization studies . . . planned maintenance . . . renting and leasing.

Distributors in principal cities

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Symbol of SW Excellence

John W. Hobbs Corporation
A Division of STEWART-WARNER CORPORATION
2066 YALE BLVD., SPRINGFIELD, ILLINOIS

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SEE YOUR CAPEWELL DISTRIBUTOR

for
hand hack saws
power hack saws
hole saws
band saws
hammers
ground flat stock
and for quick
dependable service
on all your
industrial needs

CAPEWELL

THE CAPEWELL MFG. CO.
HARTFORD 2, CONN.

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PREVENT LADDER SLIPPING ACCIDENTS

UNIVERSAL LADDER SHOES

UNDERWRITERS' APPROVED for all types of floors and surfaces

Combination cord-rubber tread holds firm to wet or dry surfaces, ridges cut through oil and grease to provide a secure grip. Sharp spike for soft surfaces, snow and ice. Adopted by many companies for general service.

WRITE FOR BULLETIN NO. 9

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth Street • Philadelphia 33, Pa.

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FOR THOSE HARD - TO - REACH TURNINGS

NYE CHAIN WRENCH

SAVES TIME • EASES WORK

Perfect for work against walls, in corners, on parallel pipes. Needs less than 5/8" clearance. Takes positive grip. Solidly built. Forged alloy handle. Saves a lot of time on the job. Order today.

TURNS ANY SHAPE

Round, square, hexagonal or octagonal, bars, pipe, conduit. No crushing.

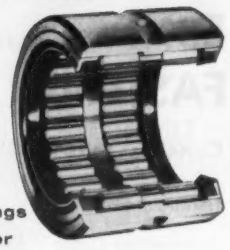
Ratchet action takes each new bite without removing wrench from work.

NYE

NYE TOOL COMPANY
4126 WEST FULLERTON AVE., CHICAGO 39, ILLINOIS

▲ For more details circle NED-295 D9 on enclosed inquiry slip ▲

Protected bearing performance in small radial space



McGILL sealed GUIDEROL® bearings are famous for long life under heavy loads

GUIDEROL design combines the inherent high load capacity of a full-complement of race-width rollers with the advantage of center guided rollers that limit skewing and prevent binding under misalignment. Integral seals keep contamination out and lubrication in. This packs a bonus of service life into GUIDEROL bearings and eliminates the need for frequent relubrication.

For limited space, high load, precision bearing requirements, specify McGILL SG series Sealed GUIDEROL bearings.

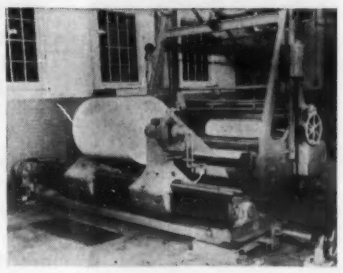
Write for helpful Bearing Handbook No. H-54-B

engineered electrical products — McGILL® — precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

▲ For more details circle NED-296 D9 on enclosed inquiry slip ▲

ROLL UNWINDING MACHINE accommodates 17 to 42-in. rolls



This Model SMP-42 shaftless pick-up unwind makes it possible for one man to load heavy parent rolls. The hydraulically-operated unit can accommodate rolls with from 17 to 42-in. diameter and from 12 to 100 in. wide. It has two water cooled, continuous duty unwind brakes with a wide range of torque control for tension adjustment. Made by **Cameron Machine Co.**, Franklin Road, Dover, N. J.

▲ For more details circle NED-299 D9 on enclosed inquiry slip ▲

GEAR TYPE HOSE CLAMP stainless steel economy model

Connecting lengths of rubber hose and plastic pipe are applications for this economy model worm gear clamp. Made of stainless steel, the Hy-Gear model has a non-collared tightening screw, yet is equal to safety collared models in holding power and corrosion resistance. Range of sizes is offered. Made by **Ideal Corp.**, 435 Liberty Ave., Brooklyn 7, N. Y.

▲ For more details circle NED-300 D9 on enclosed inquiry slip ▲

FLAME DETECTING UNIT responds only to ultraviolet light, sights temperatures up to 2200° F

Heart of this self-contained C7012A Ultra Vision Flame Detector, which can be used on all commercial and industrial heating or processing burners, is the ultraviolet-sensitive tube (shown being held at left). Tube works with an amplifier circuit to add up the impulses of electrical energy generated by the tube as it counts the ultraviolet rays present in all types of flame. Sensor is not affected by hot refractories, incandescent light, hot metal parts, or any flickering radiation in the visible or infrared regions.

Applications practical for first time through use of the C7012A include exothermic gas generators, radiant cup burners, and flame hardening machines. System can also be used to prove presence of spark ignition. It has ambient rating of 50 to 135° F, but can sight temperatures up to 2200° F without back light effect. Models are offered for 120, 208, or 240 v 50/60 cycle operation. Made by **Minneapolis-Honeywell Regulator Co.**, 2747 Fourth Ave. S., Minneapolis 8, Minn.

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- LATCH BOLTS
- CAST IRON HAND KNOBS
- ALUMINUM HAND KNOBS
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- SPHERICAL WASHERS
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- KNURLED HEAD SCREWS
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HOLD DOWN AND CLAMPING TOOLS
- T-NUT & STUD SETS
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Northwestern — NORTH WESTERN

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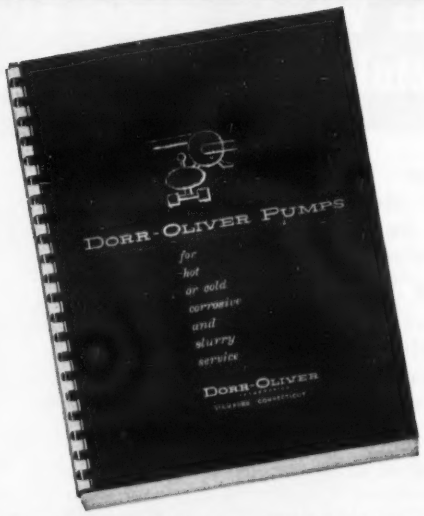

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Complete engineering data—dimensions, performance curves, parts lists and specifications on the entire Dorr-Oliver line of alloy metal, lined and diaphragm-type pumps—*all in one big bulletin!* Here's everything you need to solve difficult pumping problems . . . just off the press!

Write for your copy now, or contact the fully qualified Dorr-Oliver representatives and distributors listed at right.

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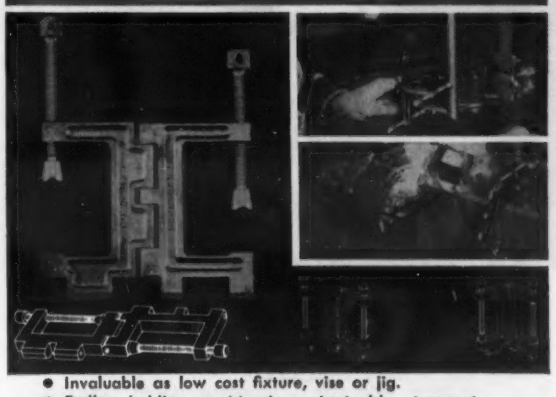
A Holding Problem?

. . . MERRILL THIRD HAND CLAMPS Have The Right Angle For It!



- Invaluable as low cost fixture, vise or jig.
- Endless holding combinations obtainable at preset angles of 45°, 90° and 180°.
- Assembles in minutes for most complicated setups.
- Indispensable in any operation such as welding, fastening and machining.
- Costs no more than high quality forged "C" Clamps, yet offers many more advantages.
- Available in 2" and 4" sizes.

U-27 For complete information, ask for Catalog TH

MERRILL BROTHERS
56-62 Arnold Ave., Maspeth, N. Y.

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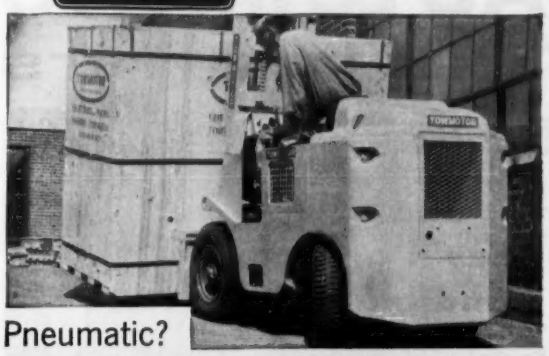
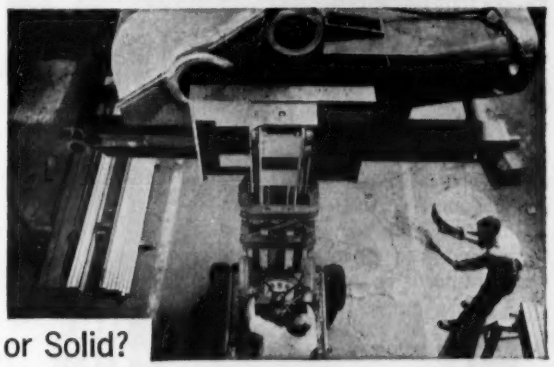
B.F.Goodrich



Pneumatic?



or Solid?

Your B. F. Goodrich TW man gives you industrial tire advice . . . FREE!

Problem: There are many variables in industrial tire types, sizes, tread compounds and tread designs. Do you know which tire is right for you?

Solution: Without cost your B.F.Goodrich Tire and Wheel Analysis man will study your equipment, loads, hauling surfaces and other special problems. He'll recommend the right tires for you to use—recommendations that are unbiased because B.F.Goodrich makes a *complete* line of industrial tires.

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Specify B.F.Goodrich tires when ordering new equipment.

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I would like further information on your FREE TW Analysis.
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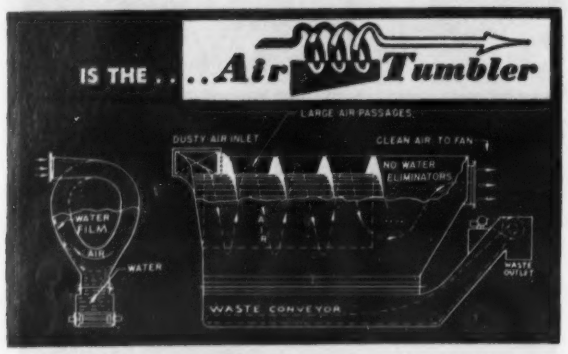
▲ For more details circle NED-303 D9 on enclosed inquiry slip ▲

The MASTER of DUST in INDUSTRY



SIMPLE—DEPENDABLE—NO FIRE HAZARD
HIGH EFFICIENCY—CONSTANT CAPACITY
LOW HUMIDIFICATION—LOW OPERATING COST

More than one million CFM in ONE plant

Write for Bulletin No. 581. Address:

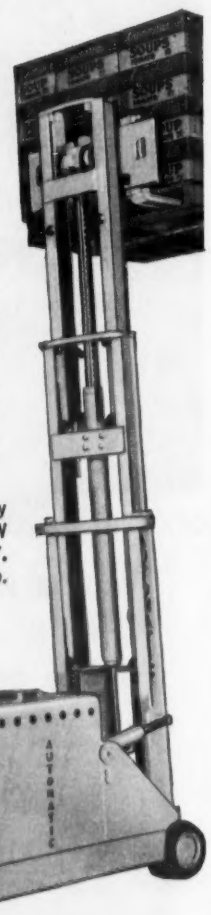
DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

▲ For more details circle **NED-304 D9** on enclosed inquiry slip ▲

AUTOMATIC Transporters

Versatile... Compact... Powerful..

and how they'll cut your handling costs!



For the 1001 jobs a walkie-type truck can do, it's your best materials handling buy. It costs less to buy, less to operate, works easily in areas unsafe or too crowded for rider-type trucks. There are over 50 standard models... such as low-lift pallet and platform models, counterbalance-type stackers, straddle and platform-type stackers, and tractors... that can be varied for specialized requirements. Send for free Transporter booklet.

WST 2000 and 3000 lb. capacity models equipped with 68" NEW SKYLIFT Mast...lifts 144". WST models in 1000 to 4000 lb. capacities.

Electric **Automatic** Industrial Trucks — *Advanced Materials Handling at less cost to you*

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

AUTOMATIC TRANSPORTATION COMPANY
Division of The Yale & Towne Manufacturing Company
Dept. D-9 61 W. 87th St., Chicago 20, Illinois

Please rush me a copy of your booklet, "TRANSPORTER FACTS and FACTORS."
Include details on lease and budget purchase plans.

Name_____ Title_____
Firm Name_____
Address_____
City & Zone_____ State_____

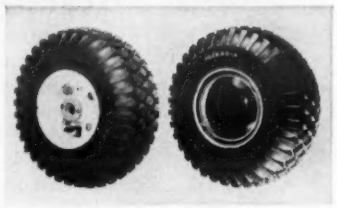
▲ For more details circle **NED-305 D9** on enclosed inquiry slip ▲

FLEXIBLE GOGGLE
vinyl frame resists acids

Flexible yellow vinyl frame of the Glensite Softie chemical goggle has a self-adjusting noseguard for maximum wearer splash protection. Six splashproof vents provide air circulation and prevent fogging, even when worn over other glasses. The wide-angle lens of clear 0.050-in. acid resistant plastic conforms to Federal specifications for impact and pierce resistance. The acid resistant neoprene headband is easily adjustable. Made by **Glendale Optical Co.**, 600 W. Merrick Rd., Valley Stream, L. I., N. Y.

▲ For more details circle **NED-306 D9** on enclosed inquiry slip ▲

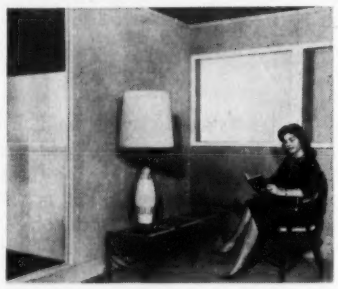
PNEUMATIC TIRED WHEEL
ball, roller, or Oilite bearings



Two and four-wheel hand trucks, material handling equipment, and other vehicles can be equipped with this economical 10 x 3.50-4 pneumatic tired wheel. Ball, roller, or Oilite bearings and a Zerk grease fitting are available on the wheel, made from two pieces bolted together. It may be mounted in swivel casters. Axle diameters range up to 1 in. Over-all tire diameter is 10 in., and rim size is 4 in. Wheel can also be used with an 8 x 3.00 or 2.50 x 4 tire. Made by **Neilson Wheel Co.**, 1603 N. 27th St., Milwaukee 8, Wis.

▲ For more details circle **NED-307 D9** on enclosed inquiry slip ▲

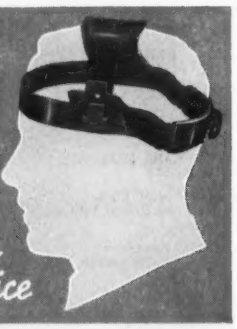
MOVABLE PARTITIONS
paneled in steel, wood, or wallboard



Single modular framing system to which can be attached steel, hardwood, plywood, or gypsum wallboard paneling is basic design of Penmetal movable interior partitions. Paneled surfaces are flush from floor to ceiling, with only hairline joints. Principal unit of the partition is the Permalock stud which has an attachment groove into which vertical edges of panels are snapped. Studs are supported by adjusters that function as leveling devices for irregular floors. Partitions are only 3 in. thick. Accessories, including doors, glass, and hardware complete the partition system. Made by **Penn Metal Co.**, 40 Central St., Boston 9, Mass.

▲ For more details circle **NED-308 D9** on enclosed inquiry slip ▲

NEW CESCO Hed-Rite Headgear
—a Premium Quality Headgear at No Increase in Price



- **BROAD BEARING, PIVOTING CROSS STRAP,** with concealed height adjustment
- **NON-SLIP, NON-STRIPPING RATCHET** adjustment for head size
- **NYLANITE CONSTRUCTION,** non-shrinking, non-warping
- **20% to 25% LIGHTER** than previous headgears
- **CAMBERED HEADBAND** with offset rear strap
- **EBONY FINISH** resists degeneration by Ultra-Violet rays
- **NO RIVETS, NO EXPOSED METAL**—cannot snag hair
- **INTERCHANGEABLE WITH HARD HATS.** Snaps on or off in seconds

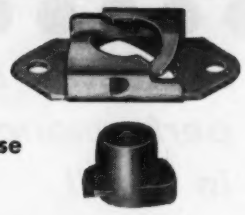
The **Hed-Rite** headgear may be worn with any face shield, helmet, hood or goggle equipped with CESCO X-12 brackets. Headgear is instantly detachable from helmet or shield without the use of tools. There is no electrical conductor between the interior of the headgear and the exterior of the shield or helmet.

See your CESCO distributor or write for FREE descriptive folder

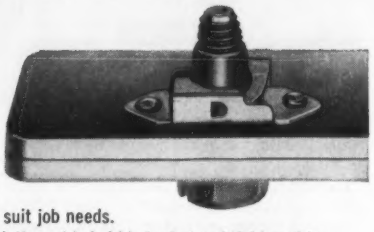
CESCO FOR SAFETY — **CHICAGO EYE SHIELD COMPANY**, 2715 W. Roscoe St., Chicago 18, Illinois

▲ For more details circle **NED-309 D9** on enclosed inquiry slip ▲

NEW VARIGRIP... ESNA® quick-release FASTENER



Consider these unique advantages:



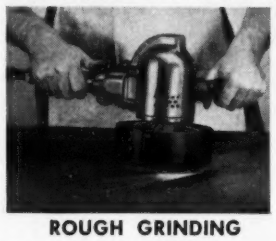
1. Two-piece unit consisting of a self-locking Elastic Stop nut as the latch-lock and a retainer basket.
2. Stop nut fits any standard ¼"-20 bolt. User supplies bolt in head style to suit job needs.
3. When bolt is installed, the nut is held in basket and tightened to the exact setting required by structure thickness. Infinite adjustment possible for full threaded length of the bolt.
4. Eliminates inventory of multiple length studs.
5. Bolt-nut latch-lock can be tightened or reset at any time.
6. One quarter-turn lock and unlock action; high re-usability.

Available in ¼"-20 size only. For complete design information write to Dept. S23-437.

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

▲ For more details circle **NED-310 D9** on enclosed inquiry slip ▲

Airetool Grinders Speed Production



ROUGH GRINDING

FINE FINISHING

When you want to take down rough spots, or speed up a tough grinding job on flat or curved surfaces, use Airetool Model 700-V pneumatic grinder, left above. It's easy to handle with 6" cup wheel or brush, available in 4500 or 6000 rpm models.

Model 500-V pneumatic sander (above, at right) is perfectly balanced for feather-edge accuracy in fine metal finishing. Takes 7" sanding disc. 3 models with 2300, 3000 and 4000 rpm speeds.

For full information about Airetool pneumatic production tools, write for Bulletin 67. Airetool Manufacturing Company, Springfield, Ohio.

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge
REPRESENTATIVES in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii.
EUROPEAN PLANT: Vlaardingen, The Netherlands
CANADIAN PLANT: Brantford, Ontario

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

▲ For more details circle **NED-311 D9** on enclosed inquiry slip ▲

The WELLS Model 600 Metal Cutting Band Saw

for Tool and Stock Room Service
•
for Medium Production Jobs

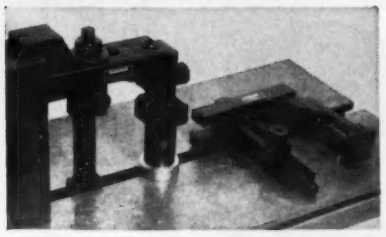
Rugged in design, dependable in operation, the Wells Model 600 is the ideal saw for tool and stock rooms . . . gives excellent service on medium production jobs. Uses ⅝" blade. Adjustable, uniform gravity feed is provided by hydraulic stabilizer and special coil spring. Casters available for portability. Write for Bulletin 260-A.

The Pioneers of Horizontal **Wells** METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1313 Harding Street
Three Rivers, Michigan

▲ For more details circle **NED-312 D9** on enclosed inquiry slip ▲

COMPARE Hi-Lo CLAMPING WITH YOUR PRESENT METHOD



Buy This Hi-Lo STARTER SET for $55

Machine-Tool Clamping System

With the Hi-Lo Clamping System, you can save money, time and labor. This system leads to safe, rigid, parallel clamping on T-slot tables or bolster plates.

The Hi-Lo Starter Set makes one clamp for any toolroom or job-shop setup between ⅜ and 11". More important, it lets you compare the Hi-Lo System on the same jobs with your present methods. Bolt length and heel-block height are adjustable over the full range of the clamp.

Complete milling machine and boring machine sets are available or you can build up your system to meet your own clamping needs. Full allowance for Starter Set given when purchasing a larger set.

Write for literature and names of distributors.

Hi-Lo PRODUCTS COMPANY
Division of Steel City Testing Machines, Inc.
8819 Lyndon Ave. • Detroit 38, Mich.

▲ For more details circle NED-313 D9 on enclosed inquiry slip ▲

NEW *FAS-LOK* STORAGE RACK

- ONLY 2 BASIC PARTS . . . QUICK ERECTION
- NO WEDGES . . . NO BOLTS, NUTS, OR TOOLS REQUIRED
- SAFE . . . RUGGED . . . *COMPLETELY ADJUSTABLE*
- Easy access — front or rear.

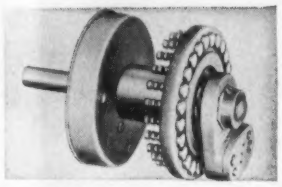
FAS-LOK Racks can be quickly assembled into unlimited combinations of height, length, and shelf opening. Rigidly braced end frames, in standard heights from 5′ to 22′ 6″, have slots punched in uprights on 3″ centers. Horizontal runners have hookplates at each end. Each hookplate has two tapered ears which fit slots of upright (inset). To assemble FAS-LOK Racks, ears are set into the wedge-shaped slots on upright and a tap on horizontal runner drives ears down, seating them securely in a wedging action to produce a rock-solid rack. Can be used to store any material—Pallets, Skids, Rolls, Bulk storage, etc.

Horizontal runners available in lengths to 20 ft.; End Frames in depths from 2′ to 5′. End Frames made in capacities to 40,000 lbs. *Write for Catalog*

CHICAGO TRAMRAIL CORPORATION
1310 S. KOSTNER AVENUE, CHICAGO 23, ILLINOIS

▲ For more details circle NED-314 D9 on enclosed inquiry slip ▲

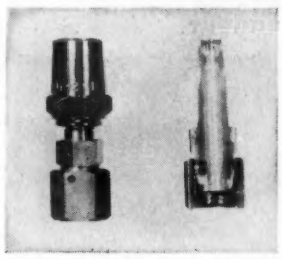
SWITCHES
have gold-laminated contacts



Gold - laminated contacts and slip rings available on Daven switches assure reliability in highly corrosive atmospheres. Suspended in a sulphur atmosphere at 45° C for 245 hr, the 11-CM-32 single-pole, 32-position, shorting type switch showed contact resistance of 0.0021 to 0.0025 ohm. Initial contact resistance before suspension in this atmosphere was 0.001 to 0.002 ohm. Made by **Daven Co.**, 530 W. Mt. Pleasant Ave., Livingston, N. J.

▲ For more details circle NED-316 D9 on enclosed inquiry slip ▲

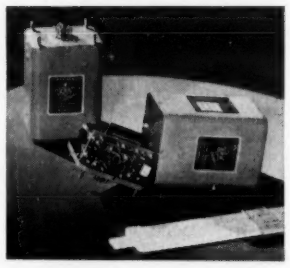
SWIVEL FITTING
connects air and hydraulic lines



Swivel connection of air and low pressure hydraulic lines made with this H-52 swivel fitting are leak and vibrationproof. Its two portions are attached with stainless steel wire inserted in the swivel head. Fittings are made according to aircraft, government, and hydraulic standards for use on hose with 3/16 to ⅜-in. ID and ⅜ to ¾-in. OD. They are nickel and chrome plated. Made by **Hofmann Engineering Co.**, 4022 W. 55th St., Chicago 32, Ill.

▲ For more details circle NED-317 D9 on enclosed inquiry slip ▲

POWER PACKS
miniaturized solid state units



Transpac series of miniaturized solid state power packs covers a voltage range from 5 to 60 v dc in fixed and adjustable voltage types. Ratings are up to 200 ma. They supply direct current power for miniature or standard size electronic devices. Protective circuitry monitors the current flow, and if the load current exceeds a designated value, the current limiter reverses the control biases to prevent additional current from flowing. A thermostatic device monitors transistor stud temperatures to prevent thermal run-away or damage. The power packs can be short circuited intermittently or continuously, yet have instant recovery when abnormal conditions are removed. All units operate from an input of 105-125 v ac, 60 or 400 cycles. Made by **Electronic Research Associates, Inc.**, 67 Factory Place, Cedar Grove, N. J.

▲ For more details circle NED-318 D9 on enclosed inquiry slip ▲

Hundreds of machines available that were designed for special industry applications.

Let us know your problem. We'll be happy to submit recommendation.

If your problem is high speed coating of paint, varnish, glue, latex, etc. — POTDEVIN's sixty years of specialization in coating equipment can quickly help you solve it . . . guaranteeing initial low cost and top efficiency. Illustrated is just one of hundreds of special machines. It laminates rolls of materials up to 20" wide at speeds up to 50 feet per minute.

ESTABLISHED IN 1893 POTDEVIN

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.
Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

▲ For more details circle NED-319 D9 on enclosed inquiry slip ▲

NEW!
Wide-vision face permits clear view from any point in 180° arc.

YARWAY REMOTE LIQUID LEVEL INDICATOR

boiler levels right-bright-and in sight

Brings boiler water levels and other liquid levels down to convenient eye-height—accurately and brilliantly. Over 12,000 in use. For free Indicator Book, write YARNALL-WARING CO., 131 Mermaid Ave., Philadelphia 18, Pa.

Branches in all principal cities.

go YARWAY with confidence

▲ For more details circle NED-320 D9 on enclosed inquiry slip ▲

ELCIDE 75™ . . . new way to increase plant efficiency . . . lower costs!

Bacteria, like these, cause emulsion trouble. They enter soluble oil emulsions through the air, water, and plant debris. Feeding on the oil-water mixture, they multiply until they cause odor, corrosion, and final emulsion breakdown. *Now, their damage can be stopped.*

One ounce of Elcide 75 added to each four gallons of standard duty soluble oil emulsion controls these bacteria . . . greatly reduces operating costs. Actual plant tests have shown Elcide 75-treated emulsions last *up to 5½ times longer.* With Elcide 75 you buy less oil concentrate, have less down time for recharging, and cut down the expense of disposal. Labor efficiency is increased while costs decrease. *Write today for more information and actual plant test data.*

PRODUCT SPECIFICATIONS ELCIDE 75

Active Ingredients—Sodium Ethylmercuri Thiosalicylate (Thimerosal) and Sodium *o*-phenylphenate.

PACKAGE	PRICE PER GAL.
1-gallon (4 per case), polyethylene	$8.50
5-gallon, polyethylene	$8.00
55-gallon, stainless steel	$6.50

Sold only through selected distributors.

KEEP COOLANTS FRESH AS A DAISY WITH...

Eli Lilly and Company, Agricultural and Industrial Products Division, Indianapolis 6, Indiana

ELCIDE 75™ Lilly

Lilly's brand of bacterial inhibitor for cutting fluids

▲ For more details circle NED-315 D9 on enclosed inquiry slip ▲

Handle all these operations with AIR VACUUM SUCTION PRESSURE

- Lifting
- Holding
- Sorting
- Separating
- Mixing
- Feeding
- Filling
- Instrument Testing
- Vacuum Forming
- Agitating
- Chucking

—and for the most efficient, low-cost air source, *use*

LEIMAN Rotary Positive AIR PUMPS

Vacuum—suction—or pressure supplied by Leiman Air Pumps is the most simple, reliable, low-cost method of handling countless operations. Exclusive hinged vane design provides greater capacity with smaller pumps, slower speeds. Durable, precision cast iron and steel parts take up their own wear, to assure "lifetime" dependability.

- Even, pulseless flow
- No tanks needed
- Vacuum or pressure from same pump
- Quiet running
- Little or no maintenance
- Every pump tested before shipment

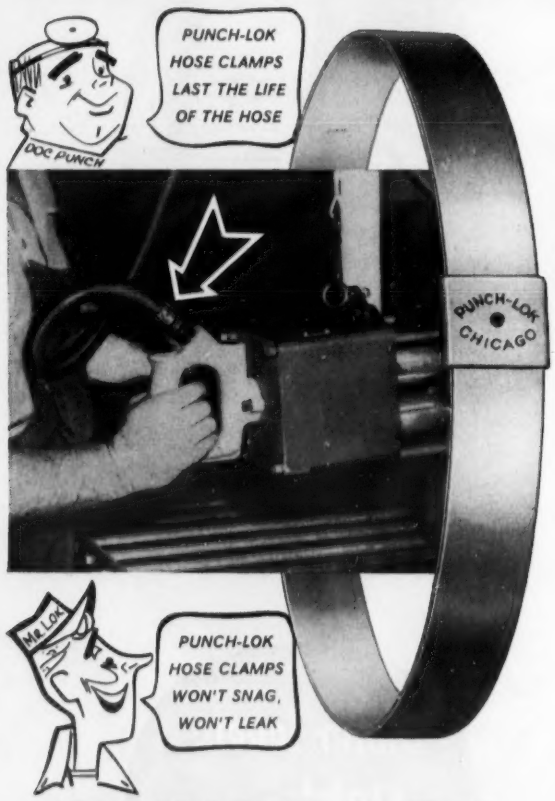
Many models:
VACUUM to 29.9" Hg.
PRESSURE to 20 psig.
VOLUME to 162 c.f.m.

WRITE FOR 16-page catalog and Application Book showing dozens of "how-to-do-it" blueprints.

LEIMAN BROS., Inc.
167 Christie St., Newark 5, N. J.
Established 1887

▲ For more details circle NED-321 D9 on enclosed inquiry slip ▲

small components do a BIG JOB!



PUNCH-LOK HOSE CLAMPS

. . . are very small in comparison to many of the machines on which they're installed, but PUNCH-LOK Hose Clamps do a BIG, BIG job. Their absolute dependability in clamping vital hose connections makes high production schedules possible. They are on the job day after day . . . never require maintenance or repairs. Easy and quick to apply, once clamped they stay clamped for the life of the hose.

See your nearby Punch-Lok distributor or write for free descriptive catalog.

"The sign of a GOOD Hose Clamp"

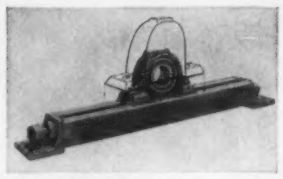
PUNCH-LOK Company

8917

Dept. A, 321 N. Justine Street, Chicago 7, Illinois

▲ For more details circle NED-322 D9 on enclosed inquiry slip ▲

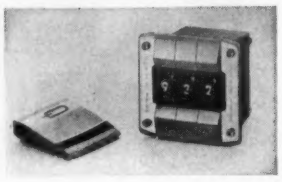
PILLOW BLOCK FRAME
take-up unit for any make or type



One basic Versa Mount take-up frame accommodates any make of ball, roller, or babbitted pillow block on the market. Loosening a locknut swings the flange connection for top or side mounting. The adjusting screw is enclosed for protection against dirt. Formed of welded steel, the take-up is offered in range of sizes, with travel lengths from 2 to 36 in., and for pillow blocks from ½ to 2 7/16 in. Take-up can also be used as a motor base or head shaft support. Made by **Lovejoy Flexible Coupling Co.**, 4891 W. Lake St., Chicago 44, Ill.

▲ For more details circle NED-323 D9 on enclosed inquiry slip ▲

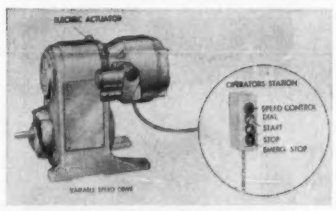
MODULAR PANEL SWITCH
features in-line readout



Finger - controlled Digiswitch provides for 10-position, single pole, binary coded decimal 1, 2, 4, 8, and octal 0, 1, 2, 4 coded outputs. Twenty of the units can be mounted in the space required for five switch elements of other types. Modular design permits ganging to conserve space. In-line readout minimizes reading errors and simplifies switch setting. Contacts are rated for 200 v, 1 amp. Made by **Digitran Co.**, 45 W. Union St., Pasadena, Calif.

▲ For more details circle NED-324 D9 on enclosed inquiry slip ▲

REMOTE SPEED CONTROL
for Varidrive variable speed motors



Remote electric dial control system for U. S. Varidrive variable speed motors can be located any distance from the motor. The Varitrol-electric control also permits presetting the speed of the drive before starting. Under normal stop conditions the unit returns the drive to low speed to protect driven equipment from high speed starts. An emergency stop button will cut out the return to slow speed. Varitrol-electric control consists of operator's station with graduated speed control dial and start, stop, and emergency stop buttons; control unit which houses required components; and electric actuator motor and shifting mechanism. Full range speed change requires about 10 sec. Made by **U. S. Electrical Motors Inc.**, Box 2058, Terminal Annex, Los Angeles 54, Calif.

▲ For more details circle NED-325 D9 on enclosed inquiry slip ▲

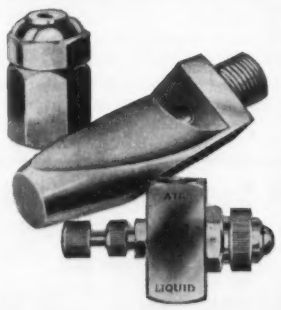
if it's done better with spray nozzles—

better — best

it will be done **best** with SPRAYING SYSTEMS CO. SPRAY NOZZLES

HERE'S WHY:
1. You have a complete choice of **design types** to give the exact spray characteristics required.
2. You have thousands of **capacities** to choose from . . . for more exact volume control.
3. You have a complete choice of **materials** for chemical compatibility.

Your inquiry is invited.



SPRAYING SYSTEMS CO.
3211 Randolph Street
Bellwood, Ill.

For complete spray nozzle information write for Catalog 24.

▲ For more details circle NED-326 D9 on enclosed inquiry slip ▲

NEW ROTO-GUARD* SHAFT MOTION INDICATOR

Connects to rotating shaft

Actuates warning lights or other signals. Operates control switches.

PROVIDES positive indication of drop in speed or stopping of machinery
PROTECTS conveyors • elevators • feeders • belt conveyors
OPERATING SPEEDS of 10 to 150 rpm make the ROTO-GUARD applicable to automatic protection of slow-moving machinery used in material handling and similar systems
RUGGED AND COMPACT: approx. 5" x 6" x 6".

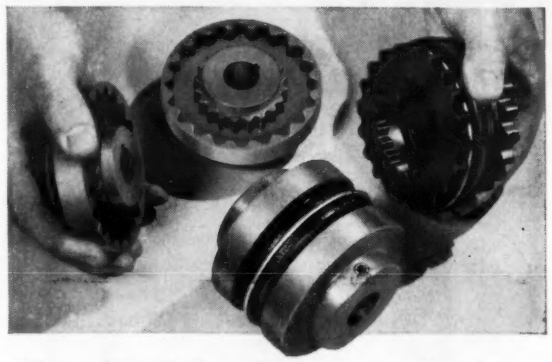
SIMPLE • POSITIVE • RELIABLE • LOW COST

A Development of
THE BIN-DICATOR COMPANY
13946-A Kercheval • Detroit 15, Michigan
Specialists in Automatic Control Devices for Material Handling Systems for Over 20 Years
*TRADE MARK

Write for Bulletin RG-16

WE SELL DIRECT • PHONE ORDERS COLLECT

▲ For more details circle NED-327 D9 on enclosed inquiry slip ▲



"Sure-Flex" Couplings 4-way flex is . . .

. . . A "SURE CURE" FOR SHOCK, VIBRATION, SHAFT MISALIGNMENT

Unique design and 4-way flex enable Wood's "Sure-Flex" Couplings to absorb not only all types and combinations of misalignment and end-float . . . but up to 15 times more shock and vibration than other leading flexible couplings. Only four basic, easily installed parts. No clamps or screws. No wear, no lubrication or maintenance. Unaffected by abrasives, dirt or moisture. Operation is noiseless. WRITE FOR BULLETIN 10100A.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

▲ For more details circle NED-328 D9 on enclosed inquiry slip ▲

new fact-filled folders on PRESSURE SENSITIVE SILICONE TAPES

Dow Corning Silicone Adhesives make tapes that stick to wet or dry surfaces from —110 to 550 F, and possess many other advantages as well. Pressure sensitive silicone tapes form good bonds, stick to almost anything, have high dielectric strength, repel moisture and are not affected by corrosive chemicals. This new folder from Dow Corning explains the properties of tapes made with silicone adhesives, lists the different backing materials available, what each will do. Get your copy now, from

Dept. 5416

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

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NEW from SEALMASTER®

QUALITY PERFORMANCE ECONOMY

The "LP" Pillow Block

- Precision self-aligning one-piece unit. No extra assembly costs for you.
- Malleable housing provides maximum strength with light weight.
- Permanently sealed—pre-lubricated with high grade lubricant.
- Nothing of comparable value in low price field.

WRITE FOR BULLETIN 1058

"L" & "SL" BEARINGS

"L" BEARING "SL" BEARING

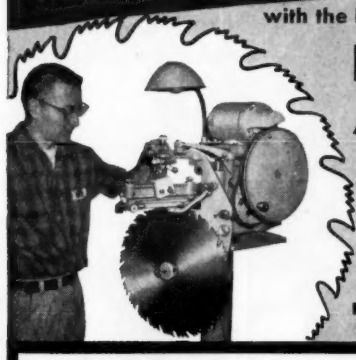
SEALMASTER

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

For more details circle NED-330 D9 on enclosed inquiry slip

COMBINATION SAWS can now be filed automatically

with the New MODEL 200



FOLEY Automatic SAW FILER

Also CROSSCUT CIRCULAR SAWS, BAND SAWS, HAND SAWS

This is the FIRST and ONLY machine which will file the so-called "combination" (rip and crosscut) circular saws; also crosscut circular saws, band saws, all types of hand saws.

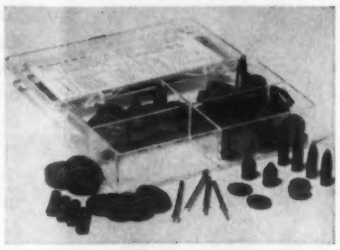
The exclusive Foley principle of jointing the saw as it is filed, keeps teeth uniform in size, shape and spacing; keeps circular saws perfectly round, usually doubles saw life

30-Day Trial Offer. You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO. 3323 N.E. 5TH STREET MINNEAPOLIS 18, MINN.

For more details circle NED-331 D9 on enclosed inquiry slip

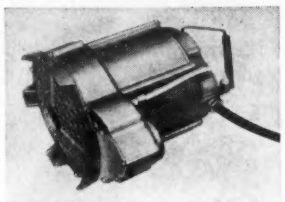
RUBBERIZED ABRASIVES
kit contains 80 wheels and points



Selected from over 350 shapes and sizes of rubberized abrasives are the 80 wheels and points contained in Tool and Die Makers Kit 777, packaged in a compartmented plastic box. Wheels and points are equally assorted in four grit textures from coarse to extra fine. Four mandrels for a 1/8-in. chuck are included. Made by **Cratex Mfg. Co.**, 1600 Rollins Rd., Burlingame, Calif.

For more details circle NED-333 D9 on enclosed inquiry slip

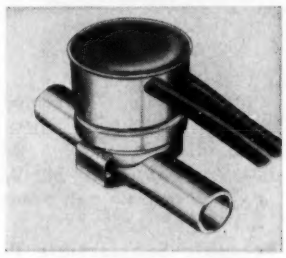
SUBMERSIBLE PUMPS
pass semisolids without clogging



Nonclogging two-vane impeller and 1½-in. openings in the pump screen allow free passage of semisolids through these compact submersible pumps. Suited for sewage applications, they are lifetime lubricated and completely submersible. Automatic Models 119A and 130A have a built-in, top-mounted control that will not foul or corrode. Nonautomatic Model 119 and 130 are also offered. Pumping capacity of Model 119 is 3300 gph at a 10-ft head, while Model 130 handles 5000 gph at a 10-ft head or 3300 gph at a 20-ft head. Made by **American Crucible Products Co.**, Kenco Pump Div., 1307 Oberlin Ave., Lorain, Ohio.

For more details circle NED-334 D9 on enclosed inquiry slip

SEALED THERMOSTAT
for refrigeration, air conditioning



All operating parts and lead connections of Klixon 20420 Series thermostats are contained within a copper cup which is sealed with an epoxy resist to exclude moisture, dust, and other contamination. Designed for refrigeration and air conditioning applications, the unit is available with mountings for tubing or flat surfaces. The snap-acting, disc type thermostat can be used as a fan switch or high limit control. Switching action is either single-pole single-throw or single-pole double-throw. Electrical ratings for 6000 cycles are 16 amp, full load, 120/240 v ac, and 60 amp, locked rotor, 120/240 v ac. Made by **Metals & Controls Corp.**, Versailles Products Div., Versailles, Ky.

For more details circle NED-335 D9 on enclosed inquiry slip

over bending problems? Your solution may be "multiple bending" of pipe, tube or structural metal parts on PEDRICK PRODUCTION BENDERS. Let us show you. Write PEDRICK TOOL AND MACHINE CO., 3640 N. Lawrence St., Philadelphia 40, Pa. Dept. 6.

PEDRICK PRODUCTION BENDERS

Free "Pedrick Line" Bulletin. Write today.

For more details circle NED-336 D9 on enclosed inquiry slip

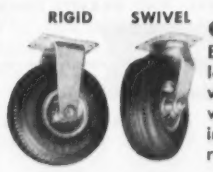
GENERAL

WIDE-BASE PNEUMATICS

Tops For Dependable, Low-Cost Performance!

Designed to save you time, money and labor, long-wearing General Wide-Base Pneumatics are your best bet for lower operating costs. Featuring high-flotation for easier rolling, they cushion loads and equipment against damage, save high cost floors and floor surfaces. Complete line gives you the exact design for every purpose.

Available separately or in assemblies of tires, tubes and wheels. Size O. D. 8" to 35"—200 to 7890 lbs. capacity for low or high speeds.



CASTER FORKS
Engineered to carry heavier loads without adding dead weight to equipment, these wide-base caster forks come in identical pairs in a wide range of sizes.

SEND FOR CATALOG, DEPT. 4

THE GENERAL TIRE & RUBBER CO. • AKRON, OHIO

For more details circle NED-337 D9 on enclosed inquiry slip

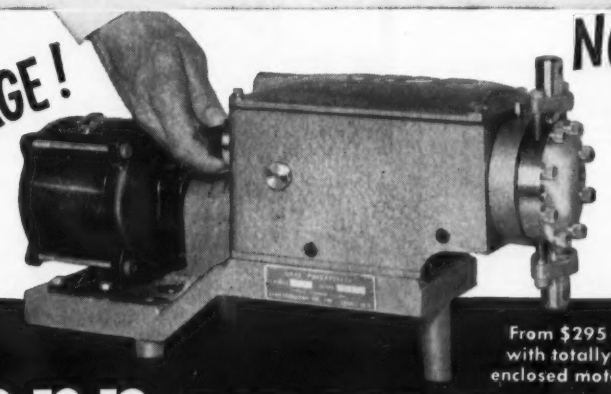
Lapp "MICROFLO" PULSAFEEDER

Pumps problem liquids at micro-flow rates

Now, for laboratory, pilot plant or industrial application . . . a controlled-volume chemical pump that's adjustable while idle or operating. All liquid handling parts of corrosion resistant materials . . . no stuffing box or other leak-likely seal. Other models for higher flow, higher pressures.
Model LS-10, capacity 2300 ML per hr. at 1000 psig.
Model LS-20, capacity 1040 ML per hr. at 2000 psig.

NO LEAKAGE!

NO STUFFING BOX!



From $295 with totally enclosed motor

WRITE for Bulletin 3206 which gives complete specifications. Lapp Insulator Co., Inc., Process Equipment Div., 3307 Poplar St., LeRoy, N.Y.

Lapp PULSAFEEDER

CONTROLLED-VOLUME CHEMICAL PUMP

For more details circle NED-332 D9 on enclosed inquiry slip

- **Permanent and Forever Clean!** Mylar* Cover guards against rain, dirt, sunlight.
- **Pressure-Sensitive!** Sticks to any flat, clean, dry surface.
- **Universal!** Can be typed or written upon, used indoors or outdoors.
- **Withstands Heat!** Up to 300° F. or down to −100° F.
- **Colorful!** Available in black, blue, red or green border colors.
- **Easy to Use!** Just remove backing sheet, fold cover over writing, and apply.
- **Pre-cut** in 5 standard sizes—packaged in handy, attractive slip boxes.

For samples and prices, see your dealer or write Dept. NED-

LABELON TAPE CO., INC.
450 Atlantic Ave., Rochester 9, N.Y.

▲ For more details circle **NED-338 D9** on enclosed inquiry slip ▲

This is one end of a 175-foot Oliver-Farquhar Conveying System. Roll-Free Gravity, Live-Roller and Power Belt units make up a line that runs between this building and another plant.

One profitable operation from Two production plants using OLIVER-FARQUHAR conveyors

This power belt and gravity spur in the Shipping and Receiving Department connects with the main line. A special guide baffle and baffle wheel permits material to go either way on the main line.

A public road separates the two plants of the Steffy Shoe Company, Avon, Pa. But an Oliver-Farquhar Power Belt, Live-Roller and Gravity Conveying System gives Steffy *a direct connection*, both ways, between plants!

In-process materials move by conveyors from plant to plant with a speed and efficiency that guarantees maximum production, maximum profits. A spur line brings the Shipping and Receiving Department conveyor close to both plants to make the whole system a cohesive, smoothly operating unit.

For peak profits in *your* operations install an Oliver-Farquhar Conveying System *now*. Mail coupon or write, wire or phone for complete details.

OLIVER POWER BELT AND GRAVITY CONVEYORS
Farquhar CONVEYORS

Mail This Coupon...

The Oliver Corporation
A. B. FARQUHAR DIVISION
Conveyor Dept. A-04, York, Penna.
Factory Branch: 618 W. Elm St., Chicago 10, Ill.
Yes, please send me facts on your conveyors.

Name_____
Company Name_____
Street Address_____
City_____ State_____

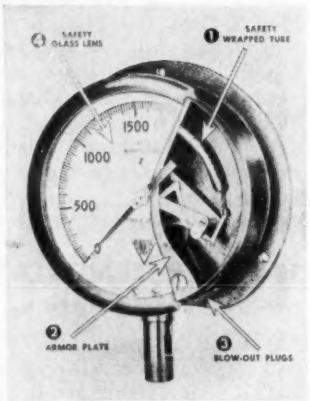
▲ For more details circle **NED-339 D9** on enclosed inquiry slip ▲

ROTARY SWITCHES
6 to 12 switches on a common shaft

Cam on the shaft of these compound rotary switches holds all but one of the radially mounted switches in the operated contact position. As the shaft rotates, individual switches are successively transferred from the operated to normal contact position. Cams can be designed to operate more than one switch at a time. Type WC-1447 unit has six 15-amp snap-action pushbutton switches arranged around the periphery of an aluminum case. Individual switches are available in single-pole single-throw (normally open or closed), two circuit, three terminal (normally open or closed), or single-pole double-throw circuits. Each switch can be used as a separate pole. Type 1433 is available for 12-position or 12-pole operation. Made by **Hetherington, Inc.**, Delmar Drive, Folcroft, Pa.

▲ For more details circle **NED-340 D9** on enclosed inquiry slip ▲

PRESSURE GAGES
built to withstand high pressures



Safety wrapped tube to smother any explosive action is a feature of this safety pressure gage for high pressure applications. Other safety features include removable armor plate dial-backing to confine explosive force, solid back to give equal protection in areas back of the installation, blow-out plugs to prevent build-up of pressure within the case, and a safety glass lens. The armor plate front safety case can be supplied in various types with 3½, 4½, 6, 8½, and 12-in. dial size gages. Made by **Kunkle Valve Co.**, 120 S. Clinton St., Ft. Wayne, Ind.

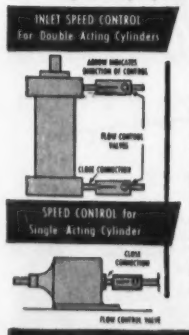
▲ For more details circle **NED-341 D9** on enclosed inquiry slip ▲

Portable Submersible Pump

Stenberg Mfg. Corp.—The 1200-lb B-150/200L submersible electric pump has maximum capacity of 3000 gpm and will pump to head of 220 ft. Moved anywhere by truck or light crane, pump will handle a high proportion of solids without clogging. Six-page Folder 48-12 points up design features and performance of this 65-hp unit.

▲ For more details circle **NED-342 D9** on enclosed inquiry slip ▲

★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—⅛" to ¾". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

Write for illustrated circular and prices.

PNEU-TROL, INC.
A DIVISION OF AUTO-PONENTS, INC.
2929 W. Grant Street • Bellwood, (Chicago Suburb) Illinois

▲ For more details circle **NED-343 D9** on enclosed inquiry slip ▲

NEW!

2½-lb. Pressurized Dry Chemical

5-lb. Pressurized Dry Chemical

Kidde dry chemicals kill more fire faster!

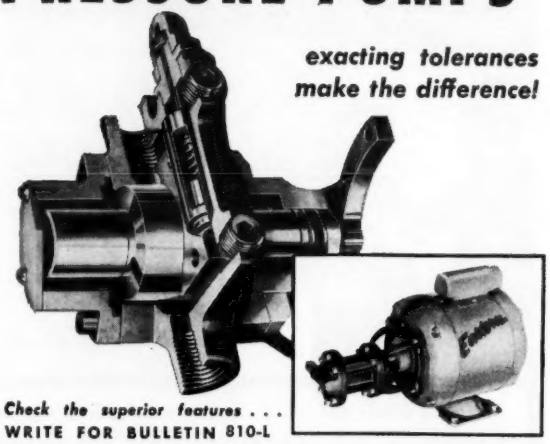
Granted top rating by Underwriters' Laboratories – pack an extra punch – put out as much fire as eight and sixteen one quart CTC portables respectively. Perfectly balanced, light in weight, easy to operate, no pin to remove, no valves to turn, no inverting or bumping needed. Just aim and press lever! No pressure cartridge needed. Write for more information today!

Kidde
Walter Kidde & Company, Inc.
424 Main St., Belleville, N. J.
Walter Kidde & Company of Canada Ltd.
Montreal—Toronto—Vancouver

▲ For more details circle **NED-344 D9** on enclosed inquiry slip ▲

EASTERN POSITIVE PRESSURE PUMPS

exacting tolerances make the difference!



Check the superior features . . .
WRITE FOR BULLETIN 810-L

Precision machine work to split thousandths guarantees continued full output after thousands of hours of operation. No metal to metal contact makes them suitable for pumping small volumes of water or water-type solutions against relatively high pressures.
GW Series, in bronze, for volumes up to 1 GPM at pressures up to 200 P.S.I. VW Series, in bronze or Stainless Steel, for volumes up to 5½ GPM at pressures up to 60 P.S.I.
Close coupling gives greater strength and minimizes size and weight. Pump shafts in both gear and rotary vane pump operate in composition bearings and are driven through a splined shaft.

Eastern INDUSTRIES, INC.
100 SKIFF ST. • HAMDEN, CONN.

▲ For more details circle **NED-345 D9** on enclosed inquiry slip ▲

New Peerless Pal Lever Puller Makes Many Jobs Much Easier

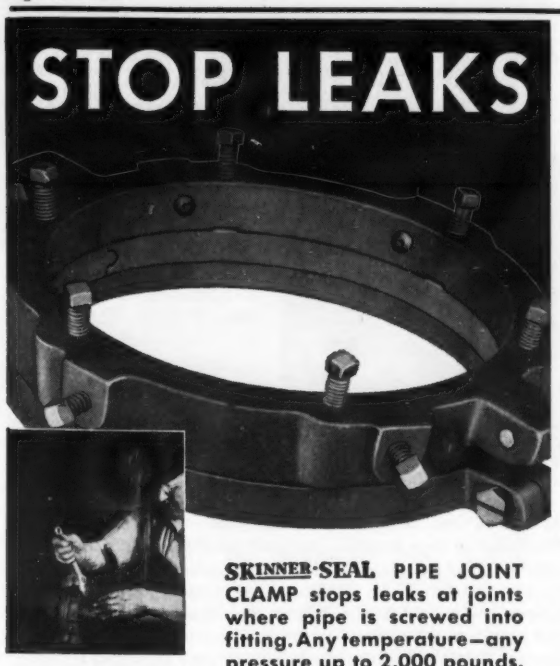
Relocating machine tools, tightening guy wires, welding structural members, lifting and lugging heavy parts? A Peerless Pal Lever Puller is just what you need to make the job easier. This compact unit is so light it can be carried in the palm of the hand, so versatile it can be used anywhere a load must be lifted, lowered or dragged. It is safe, too. ¼ and ½-ton units. Send for Bulletin P-40.

THE HARRINGTON CO.
Plymouth Meeting 16, Pa.

Hand Chain Hoists (1/4 to 60 tons) • Electric Hoists (170 to 4000 lb.)
Trolley Hoists (1/4 to 12 tons) • I-Beam Trolleys (1/4 to 20 tons)

▲ For more details circle **NED-346 D9** on enclosed inquiry slip ▲

STOP LEAKS

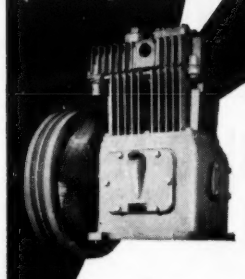


SKINNER-SEAL PIPE JOINT CLAMP stops leaks at joints where pipe is screwed into fitting. Any temperature—any pressure up to 2,000 pounds. Saves the cost of tearing out and renewing leaky fittings. Prevents shutdowns. Order from your local industrial distributor!

M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

For more details circle **NED-347 D9** on enclosed inquiry slip

LUBRICATION



Something LESS for you to think about with a

Quincy COMPRESSOR

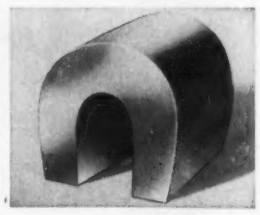
Let oil pressure fall too low for *any* reason and the Quincy Compressor with Safe-Q-Lube unloads automatically, warning the user. The same system that guards the bearings prolongs motor and belt life, too, by providing loadless starting and free-rolling stops. Authorized parts and service depots from coast to coast.

SEND FOR CATALOG

Quincy COMPRESSORS **QUINCY COMPRESSOR CO.** DEPT. NED-459, QUINCY, ILL.

For more details circle **NED-348 D9** on enclosed inquiry slip

GIANT MAGNETS
have 125 and 250-lb lift strengths



Two sizes of giant magnets for detecting and retrieving jobs in industry have respective lift strengths of over 125 and 250 lb. Former is a 5-lb horseshoe-shaped magnet measuring 3¼ x 2⅝ x 2¾ in. and with a 2000-gauss rating. Latter magnet weighs 15¾ lb and is about 5 3/16 in. high. Its gauss rating is 5000 to 6000. Magnets respectively sell for $8.50 and $22.50. Made by **Edmund Scientific Co.,** 180 E. Gloucester Pike, Barrington, N. J.

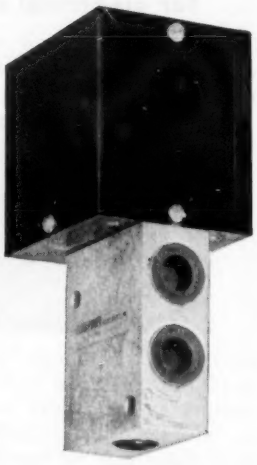
For more details circle **NED-350 D9** on enclosed inquiry slip

GREASE DISPENSER
automatic, compensated flow type

A calibrated amount of grease is delivered in proportion to bearing requirements by the VisiBall Jumbo 10-oz automatic grease dispenser. Uniform flow of lubricant is due to an adjustable orifice created by a metering ball traveling in a tapered cylinder tied to and actuated by the diaphragm. If the diaphragm is filled beyond the appropriate level a relief valve opens to discharge the excess grease. Reservoir can be visually checked from 30 ft away through the transparent dome. Made by **Visi-Ball Mfg. Co.,** Box 7021, Ft. Worth 11, Tex.

For more details circle **NED-351 D9** on enclosed inquiry slip

SOLENOID VALVES
for pressures to 3000 psi

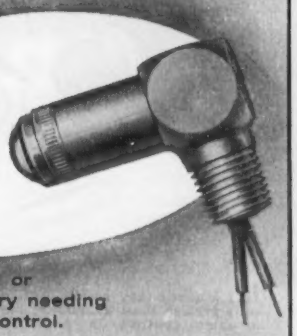


Line of 2 and 3-way solenoid valves for pressures to 3000 psi comprises ¼, ⅜, and ¾-in. NPT sizes for alternating and direct current voltages. Used to automate oil hydraulic systems, valves are furnished with metal covers which can be removed without disturbing piping or wire connections. Available capacities are 6, 8, and 30 gpm. Poppet construction of 2-way valves assures leak-tight sealing when closed. Solenoids can be energized for extended periods without affecting operation. Valves operate in any position, and solenoids are interchangeable. Made by **Fluid Power Accessories, Inc.,** 2051 Railroad Ave., Glenview, Ill.

For more details circle **NED-352 D9** on enclosed inquiry slip

INDUSTRY-BY-INDUSTRY!

Miniaturized "Electric-Eyes" are designed for automation applications.



- Cigarettes
- Government
- Drugs
- Pharmaceutical
- Cosmetic
- Packaging
- Printing
- Chemical
- Textile
- Beverage

—and any general or processing industry needing constant quality control.

For monitoring-counting-registration or control the new Miniaturized "Electric-Eyes" are engineered for the production line. These photomation instruments are rugged, compact and small enough to fit into "tight" places. Precise quality control by percentage cut-off of direct light or by reflected beam.

A special staff of engineers are ready to handle your problems. Prompt quotations and delivery. Write for descriptive bulletins.

• Serving Industry for over a quarter century.

Photomation inc. Formerly Ess Instrument Company
96 SOUTH WASHINGTON AVE., BERGENFIELD, NEW JERSEY

ELECTRONIC INSTRUMENTS and CONTROLS for INDUSTRY

For more details circle **NED-353 D9** on enclosed inquiry slip

New STEEL GUARD Industrial Pneumatic Tire from Goodyear—a rugged performer from any angle!

NEW PERSPECTIVE ON "PNEUMATICS"

This unusual photo illustrates—in a striking way—*three important points* about the amazing new STEEL GUARD Tire that may well change your entire viewpoint on pneumatic industrial tires:

❶ Notice how the STEEL GUARD rolls right over sharp objects that would puncture other tires. The reason: a rubber-embedded *barrier of steel cables* locked firmly in place between plies—even reaching across the shoulders of the tire.

❷ Next, look at the rugged lugs on this STEEL GUARD. They provide extra traction and impact resistance on roughest surfaces.

❸ Look now at the sidewall of this STEEL GUARD. Yes, this is a *pneumatic* tire with all the smoothness, stability and flotation of the finest pneumatic tires—yet able to operate in areas where tires of this type failed prematurely before.

Why not let your Goodyear Dealer give you a new slant on pneumatic industrials—and STEEL GUARD—today. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

INDUSTRIAL TIRES BY **GOODYEAR**

More tons are hauled on Goodyear Truck Tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-354 D9** on enclosed inquiry slip

High Efficiency

DUST COLLECTION

at Low Cost

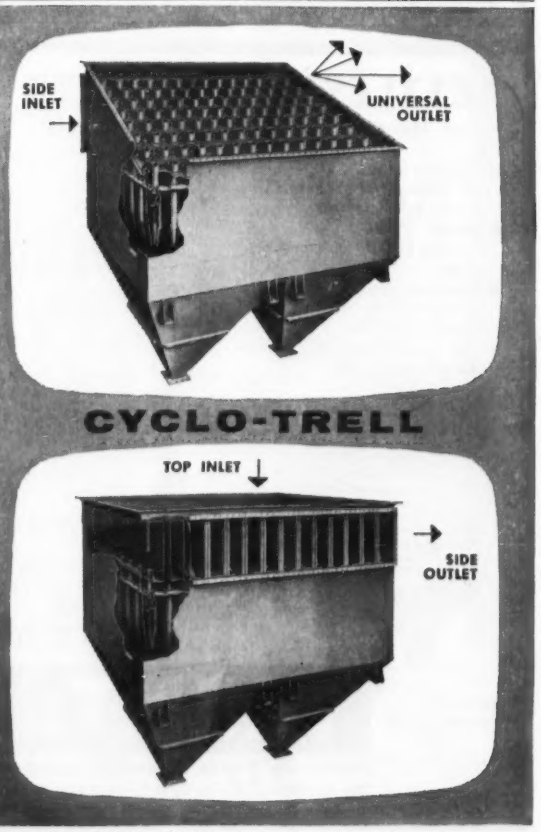
- Greater gas flow per tube
- Fewer tubes per collector
- Flexible designs
- Many applications

Result: Lower total cost for a given capacity and efficiency

WRITE FOR BULLETIN 200

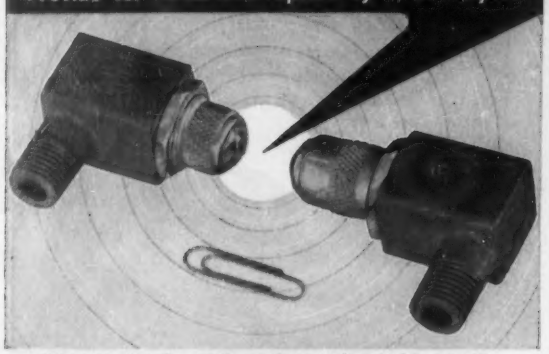
RESEARCH-COTTRELL

Main Office and Plant: Bound Brook, N. J.
Representatives in major cities of U.S. and Canada



For more details circle **NED-349 D9** on enclosed inquiry slip

MINIATURE PHOTOELECTRIC SCANNERS
Provide for beam-interruption by 1/32" object



This exceptionally small, precise sensing device assures ultra-precise limit switching, machine and edge control; actuates controls in production or inspection lines.

FEATURES:

- Operated by direct beam, or by reflected beam when heads are mounted side by side in special installations.
- Dark or light energizing; response to beam-interruption of less than 1 millisecond with adjustable relay hold-in time; delayed relay response adjustable to 1 second; direct relay operation provided by 3 types of relays.
- Cadmium-selenide photocell gives short-span, moderate-speed operation; adding an electronic relay increases distance to 6 feet. Lead-sulphide cell with electronic relay gives high-speed operation, sharp resolution.
- Heads have provision for panel mounting, rear-of-housing attachment, or conduit mounting with ¼" pipe thread.
- Life of light source in excess of 5000 hours.

Write for data sheet.

FARMER ELECTRIC
Products Company, Incorporated
2300 WASHINGTON ST. NEWTON LOWER FALLS, MASS.

▲ For more details circle NED-355 D9 on enclosed inquiry slip ▲

160 cubic inch reservoir with 8"x 8" base plate and 18" long handle.

Available with optional size pistons ⅜", ½", ¾", 1" and 1½".

We specialize in the manufacture of hand pump units which operate in temperatures from −65° F. to +160° F. and with any capacity reservoirs required. Pumps can be furnished on special order with custom seals to handle various aircraft types of fuels such as Pydraul, Skydrol, Oronite, etc.

The single pump with ½", ¾", 1" or 1½" piston is now available in stainless steel.

for additional information write:

WILLIAM S. PINE
hydraulic hand pumps for 1001 uses
1635 East 22nd St., Los Angeles 11, Calif.

▲ For more details circle NED-356 D9 on enclosed inquiry slip ▲

MARSHALLTOWN

America's finest for every cutting job—straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

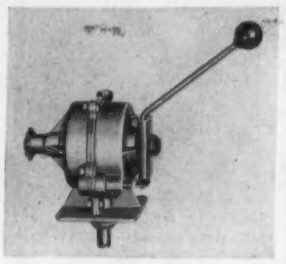
Built for extra heavy duty use. High grade tool steel cutters.

Write Today for Details and Prices

MARSHALLTOWN MFG. COMPANY
MARSHALLTOWN 2, IOWA

▲ For more details circle NED-357 D9 on enclosed inquiry slip ▲

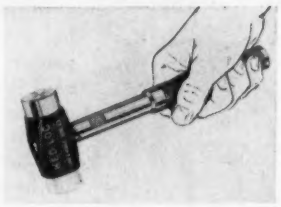
REVERSING TRANSMISSION
for use with engines up to 5½ hp



Right angle drive P-333 reversing transmission has one forward speed, one reverse speed, and neutral. The low cost, 2⅝:1-ratio, 7-lb unit is suited for riding lawnmowers and other vehicles using engines up to 5½ hp. Transmission is furnished with shift lever and an eight-tooth No. 41 hardened steel roller chain sprocket. It is lubricated for life, will not leak, and can be mounted in any position. Made by **J. B. Foote Foundry Co.**, Box 2214, Fort Dearborn Station, Dearborn, Mich.

▲ For more details circle NED-358 D9 on enclosed inquiry slip ▲

SHOP HAMMER
head uses interchangeable inserts

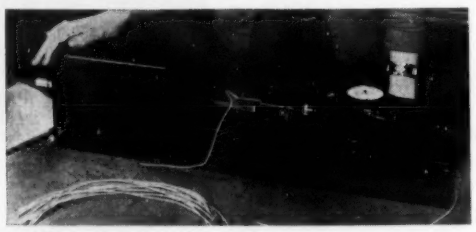


Lead, brass, plastic, and nylon inserts can be interchanged in the Hedloc hammer head. Worn out tips are quickly replaced in vise-like head, sections of which are held together by the threaded handle which has wrench flats for tightening. Fives hammer sizes range in weight from ¾ to 8½ lb with ⅝ to 2-in. tips and in price from $2.25 to $12. Four-cavity mold for casting lead inserts is also offered. Made by **Burr & Nichols, Inc.**, 76 Railroad St., Keene, N. H.

▲ For more details circle NED-359 D9 on enclosed inquiry slip ▲

TERMINAL PULL TESTER
for electrical connection checking

Tensile strength of all types of electrical connections can be tested by the portable terminal pull tester. The air-actuated instrument is built around the Hunter

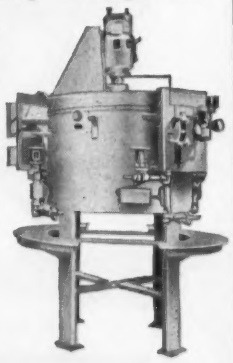


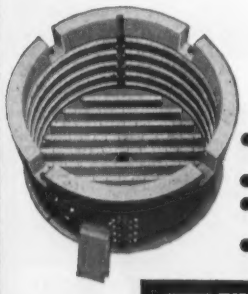
force gage. Actuation of an air motor pulls the wire until the connector fails. The gage holds the force reading at the failure point. Standard wire sizes up to No. 12 primary cable and up to No. 10 heavy duty cable can be tested. Seven models have maximum adjustable capacities of 20, 50, 75, 100, 150, 200, and 500 lb. Made by **Hunter Spring Co.**, 1 Spring Ave., Lansdale, Pa.

▲ For more details circle NED-360 D9 on enclosed inquiry slip ▲

KETTLES AND JACKETS
Faster Heating and Cooling . . . Longer Life

- 5 Gallon to 325 Gallon Capacity Kettles for Waxes, Oils, Resins, Salts, Asphalts.
- TRENT "Folded-and-Formed" Heating Elements in Metal Inner Liner.
- Complete Temperature Control to Prevent Overheating, Scorching, Hot Spotting.
- Jackets for Retorts, Reactors and Autoclaves.





- High Temperature Uniformity to 2000°F.
- Compact, Space Saving Design.
- Low Thermal Inertia—High Dielectrical Strength (600V).
- Economical Installation and Maintenance.

WRITE FOR BULLETIN 72-TE

TRENT INC.
Electrically Heated Industrial Equipment
251 LEVERINGTON AVE., PHILADELPHIA 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

▲ For more details circle NED-361 D9 on enclosed inquiry slip ▲

PORTABLE PNEUMATIC SYSTEM DESIGNED FOR RAPID, SAFE, EFFICIENT CONVEYING

Versatility and cost cutting are just two of the many capabilities of the Hoffco-Veyor portable pneumatic system which has provided as much as an 80% savings in operating costs and increased plant efficiency by 20%. The Hoffco-Veyor is an inexpensive solution to the problem of rapid, safe movement and recovery of a wide variety of dry materials including rock granules, plastic pellets, and gritty or pulverized substances as well as corrosive chemicals.

Available in two models, portable Hoffco-Veyors normally employ 35 foot length, 2½ in. diameter hose. Collection rates vary from 50 to 100 lbs. per minute depending on conditions and model in use. Where quantities exceed 7½ cubic feet standard 55 gallon drums can be used as auxiliary collectors. Equipped with inlet valves to take standard size 1½ to 2 in. vacuum hose, the unit can be used as a vacuum cleaner or dust collector. Hoffco-Veyors easily turn their own length for wheeling to any location in the plant. Source: For free brochure and case history, **U. S. Hoffman Machinery Corp., Dept. I, 103 Fourth Ave., N. Y. 3, N. Y.**

▲ For more details circle NED-362 D9 on enclosed inquiry slip ▲

NEW LIGHT SOURCE by DURO-TEST®

© 1959 by Duro-Test Corp.

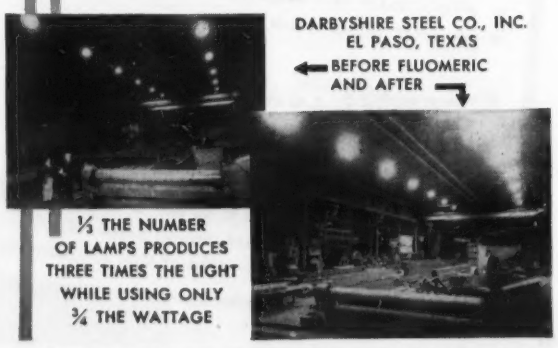
FLUOMERIC®

Engineered to fit standard sockets without special wiring, fixtures, or ballasts, Duro-Test's Fluomeric is recognized as the first new light source in 20 years. Combines outstanding features of incandescent, fluorescent, and mercury vapor for brilliant white light and accurate color rendition.

Life-rated at 6,000 to 12,000 hours, they reduce maintenance to a minimum—especially in high bay or pole installations, indoors or out. Ultra-Durex hard glass ignores sudden temperature changes, moisture, insects. Available in 450 watt BT-37 and 750 watt R-57.

DURO-TEST CORPORATION
North Bergen • New Jersey
DURO-TEST ELECTRIC LTD. • TORONTO
Montreal • Winnipeg • Vancouver

DARBYSHIRE STEEL CO., INC.
EL PASO, TEXAS
← BEFORE FLUOMERIC AND AFTER →



⅓ THE NUMBER OF LAMPS PRODUCES THREE TIMES THE LIGHT WHILE USING ONLY ¾ THE WATTAGE

▲ For more details circle NED-363 D9 on enclosed inquiry slip ▲

101

A valuable machine, to you, for the speedy, safe, efficient disposition of blueprints, letters, confidential records. The M & M Air Fluff Paper Shredder is also a money saver to those companies that use quantities of paper excelsior—by converting waste paper into valuable excelsior. Adjustable cuts of 1/8", 3/16", 1/4", or 3/8" widths. Models range in productive capacities from 200 to 2500 pounds per hour. Write for descriptive folder.

MITTS & MERRILL

1000 SO. WATER ST. • SAGINAW, MICHIGAN

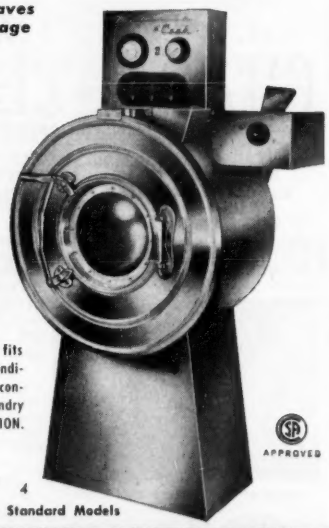
▲ For more details circle NED-364 D9 on enclosed inquiry slip ▲

Washette by Cook

AMERICA'S LEADING OPEN-END WASHER

OPERATING COSTS GO DOWN!

On the job laundry saves time — increases useage efficiency.



Washette BY COOK is ideal for . . .

- Factories
- Industrial Plants
- Offshore drilling rigs
- Construction Camps
- Tankers, Barges
- Field Camps
- Anywhere laundry must be done efficiently, economically.

Washette is completely flexible, fits varied and complex laundry conditions, easy to use, simplified controls. If you have a special laundry problem, write us—NO OBLIGATION.

AVAILABLE IN AC-DC

Write for FREE brochure

48-Hour Shipment on all Standard Models

Cook Machinery Co., Inc.

4301-T S. Fitzhugh Ave. Dallas 10, Texas

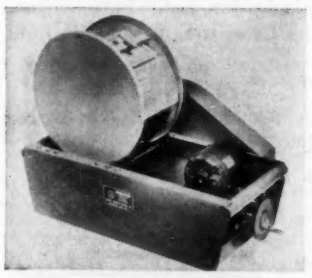
▲ For more details circle NED-365 D9 on enclosed inquiry slip ▲

SHOWER CONTROL
holds temperature steady

Any shower with a standard ½-in. IPS connection can be equipped with the Elgin Shower Economizer which permits water to be turned on and off, yet maintain the same temperature. It is installed without special tools and makes possible savings in water and fuel. The chain-operated control is made of solid, chrome plated brass. Made by **Chalmer Metal Products Co.**, 28th Street & Lincoln Avenue, Camden 5, N. J.

▲ For more details circle NED-367 D9 on enclosed inquiry slip ▲

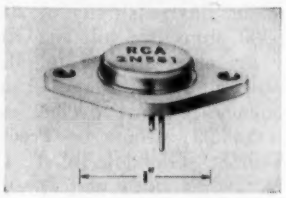
PORTABLE TUMBLE-FINISHER
for short-run, small parts finishing



Four neoprene rollers and dual drive shafts drive barrel of this Model RA Rollabrader, a 0.5-cu-ft portable tumble-finisher. Speed is adjustable from 20 to 46 rpm. Typical uses include short runs of small production parts, experimental processing, and precision finishing of delicate parts. Unit has a vinyl barrel lining, lifting handles on both barrel and machine bed, and heavy-duty welded construction suitable for steel ball burnishing. It is priced at $168.50. Made by **Rampe Mfg. Co.**, 14915 Woodworth Ave., Cleveland 10, Ohio.

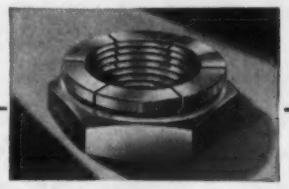
▲ For more details circle NED-368 D9 on enclosed inquiry slip ▲

POWER TRANSISTORS
high-voltage, high-current types



Power-switching, dc-to-dc conversion, voltage regulating, power supply, and relay-actuating circuits are among heavy-duty industrial applications for 2N561 and 2N1014 alloy-junction germanium p-n-p transistors. Maximum peak-collector-current rating is −10 amp. Peak collector-to-base voltage ratings are −80 and −100 v, respectively, and maximum peak collector-to-emitter voltages are −50 and −65 v. In a 28-v, 42.6-mw common-emitter power switching circuit, transistors can provide 54-w power output with power gain of 31.3 db. In a dc-to-dc converter circuit with 28-v supply voltage and 4.2-amp current, units can provide 420-v dc output at 88 per cent efficiency. Made by **Radio Corp. of America**, Semiconductor & Materials Div., Somerville, N. J.

▲ For more details circle NED-369 D9 on enclosed inquiry slip ▲



FLEXLOC thin nuts permit you to design lighter, smaller assemblies without sacrificing reliability

Self-locking FLEXLOC thin nuts are 30% lower—and correspondingly lighter—than regular-height locknuts of the same nominal diameter. They not only fit into spaces where regular-height nuts will not go, but also provide full locking action with shorter bolts, thus saving still more weight, without sacrifice of strength or reliability.

FLEXLOC thin nuts have other advantages, too. They are of 1-piece, all-metal design, with every thread, including those in the locking section, carrying its full share of the tensile load. They have no nonmetallic inserts to waste space or weaken the nut structure. They have no auxiliary locking devices—there is nothing to put together, come apart or get lost. They are both lock and stop nuts—will not vibrate loose.

See your authorized SPS distributor for complete details. He carries a full stock in standard sizes and materials. Or write Flexloc Locknut Division, STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

We also manufacture precision titanium fasteners / write for free booklet

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

▲ For more details circle NED-370 D9 on enclosed inquiry slip ▲

Write for Free Facts on . . . .

Brainard's NEW "POWER TEAM" FOR HEAVY-DUTY STRAPPING!

• Heavy duty strapping users get more cost-cutting advantages with Brainard's new PNB stretcher and PNB2 sealer.

The PNB pneumatic stretcher permits quick tensioning—and maintains it. The PNB2 sealer, with a simple press of the thumb, gives a strong, safe, lasting seal. Applied to 2" x .050 strap, they cut loading and packaging costs.

Write for free facts—or call your Brainard representative—he'll be there.

DIVISION OF SHARON STEEL CORPORATION • WARREN, OHIO

BRAINARD Safe-Ty STRAPPING

In Canada: Brainard Steel, Canadian Division, Toronto, Montreal

MAKERS OF TENSIONAL, HEAVY DUTY STRAPPING, SEALS, ACCESSORIES, TOOLS FOR CARLOADING AND PACKING

▲ For more details circle NED-366 D9 on enclosed inquiry slip ▲

Almost Anyone Can Make Solenoid Parts, But . . .

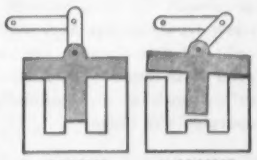
Headache-Free Solenoid Application Takes Machine Tool Precision

There may be solenoid application problems that we can't solve, but . . . we have yet to find one. It's simply because we are machine tool builders and fully understand the basic problems of converting electrical energy to mechanical energy. It's the reason why Namco solenoids have superior electrical and mechanical characteristics and why we can assure you of the one other factor that *truly* determines solenoid life . . . *proper application.*

Custom-engineered solenoids in every size, capacity and type can be made to meet your specifications. Write us for complete information.

For Example:

Operating in an arc without proper linkage will cause incorrect seating of the plunger . . . allowing the solenoid to draw partial inrush current continuously. This will cause overheating and eventual malfunction of the solenoid.

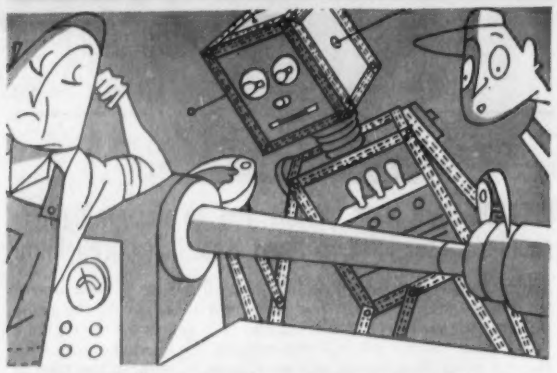


National Acme

THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

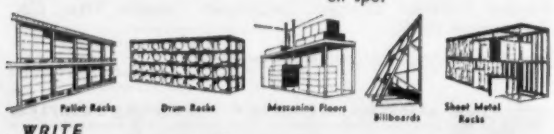
▲ For more details circle NED-371 D9 on enclosed inquiry slip ▲



YOU CAN DO ANYTHING...
WITH FLEXANGLE

It's smart to put FlexAngle to work for you... and it's easy.

- No drilling, welding, painting
- No special training needed
- Cut every ¾" with exact fits
- No waste
- No expensive accessories
- Lay out, measure, cut, bolt on spot



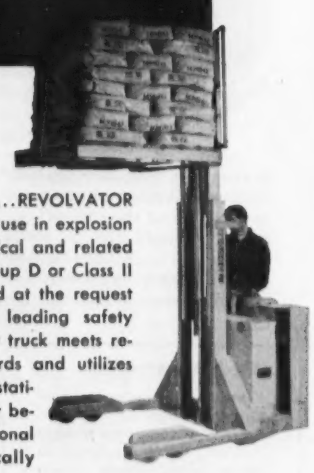
WRITE FOR FREE BULLETIN FLEXANGLE CORPORATION
3762 OAKWOOD AVE. • P. O. BOX 418 • YOUNGSTOWN 1, OHIO

▲ For more details circle NED-372 D9 on enclosed inquiry slip ▲

Because this has what it takes...

The rugged durability and extra value (Timken tapered roller bearings in every wheel, spring loaded non-kicking handle, slide planes for easy pallet entry and 360° lifting radius as standard) of the REVOLVATOR Red Giant hand lift pallet truck has built a reputation which means that...

We were called on to do this...



One of six basic models...REVOLVATOR Series 54.00 Go-Getter for use in explosion hazardous areas for chemical and related companies with Class I Group D or Class II Group G hazards designed at the request of one of the country's leading safety authorities. This electric lift truck meets requirements for both hazards and utilizes screw type housings hydrostatically tested to pressures far beyond those required. Additional safety feature—hydraulically operated disc brake.

Explosion-proof High-lift Go-Getter

Therefore: Whether you need a standard piece of material handling equipment or specially designed equipment, call on

REVOLVATOR CO.
8732 TONNELE AVENUE, NORTH BERGEN, N. J.

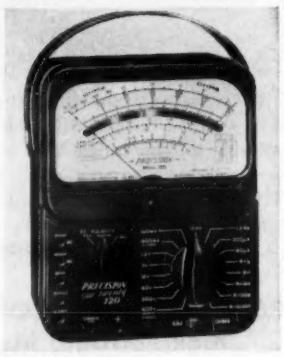
▲ For more details circle NED-373 D9 on enclosed inquiry slip ▲

VISUAL-AUDIO TRAINING UNIT
synchronizes slides with recorder

Assembly instructions which can reduce trainee learning time from 30 to 50 per cent are presented by the Learoaide visual-audio training unit. It synchronizes a color slide projector with a customized tape recorder. Trainees determine their own learning pace through any step-by-step assembly process by controlling sequences with a stop-start-repeat feature. Changes in procedure are accomplished by substituting a new slide and rerecording the corresponding part of the tape. A speaker for group instruction and headset jacks for individual instruction are provided. Made by **Lear, Inc.**, Box 688, Grand Rapids, Mich.

▲ For more details circle NED-374 D9 on enclosed inquiry slip ▲

VOLT-OHM METER
mirrored scale eliminates parallax



Direct-current polarity reversing switch incorporated in the Model 120 volt-ohm meter increases its number of ranges from 44 to 59. The alternating current and decibel frequency response has been widened to be flat from 15 cps to 100 kc, ±1 db. A chrome-mirrored scale plate makes possible accurate readings by eliminating parallax. Improved model has sensitivity of 20,000 ohms per volt dc and 5000 ohms per volt ac. Eight ranges from 0 to 6000 v dc, eight from 0 to 6000 v ac; seven dc current ranges; five resistance ranges; and eight wide frequency response decibel ranges are included. Price is $44.95. Made by **Precision Apparatus Co.**, 70-31 84th St., Glendale 27, L. I., N. Y.

▲ For more details circle NED-375 D9 on enclosed inquiry slip ▲

Computing Services

General Electric Co.—Computing services offered by G-E cover problem analysis, mathematical analysis, programming, coding, machine time, training, and facility operation. These services are described in 12-page Bulletin CPB-21. Equipment is located at the company's Computer Dept. in Phoenix, Ariz. and is capable, for example, of performing 40,000 additions each second.

▲ For more details circle NED-376 D9 on enclosed inquiry slip ▲

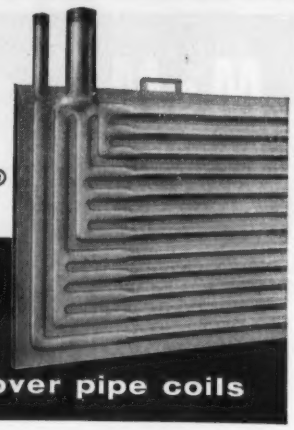
whatever the job...

PERMACEL STRAP-IT
TRADEMARK
Pressure Sensitive Tape Dispenser

PERMACEL New Brunswick, N.J.
TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

▲ For more details circle NED-377 D9 on enclosed inquiry slip ▲

NEW
MULTI-ZONE
PLATECOIL®



Years ahead features plus time-proven advantages over pipe coils

New MULTI-ZONE configuration, operating pressures up to 250 psi, plus the time-proven advantages of PLATECOIL over pipe coils open up a wider than ever range of tank and process heating and cooling applications. Get the facts now on the new MULTI-ZONE PLATECOIL line.

WRITE FOR NEW BULLETIN P57.

PLATECOIL® DIVISION
TRANTER MANUFACTURING, INC.
LANSING 9, MICHIGAN

▲ For more details circle NED-378 D9 on enclosed inquiry slip ▲

PROTECTION PLUS!

END MAINTENANCE PROBLEMS FAST WITH *

CHARCOTE
NEOPRENE RUBBER-COATING

Protects Against:
CORROSIVE FUMES — WEATHERING — ABRASION
SUNLIGHT AND HEAT — MOISTURE — SALT SPRAY

CHARCOTE is not a rubber base paint. You do not "paint" surfaces . . . you actually rubber-coat them with protection!

CHARCOTE can be brushed on, rolled on, sprayed or used as a dip. Available in standard industrial colors including aluminum, red, black, green and grey; and in quart, gallon, five-gallon and drum containers.

CHARCOTE air-dries and air-cures to a tough, pliable, rustproofing and waterproofing film of neoprene rubber, and has its built-in primer.

Tougher Than The Metal Itself

JOBBER INQUIRIES INVITED

Write For Descriptive Charcote Folder

CHARLESTON RUBBER CO.
18 STARK IND. PARK CHARLESTON, S.C.

▲ For more details circle NED-379 D9 on enclosed inquiry slip ▲

Eliminate... SEWER-CAUSED WORK STOPPAGES!

Lowest Upkeep
•
Write For FREE "On-the-job" Demonstration or Catalog.

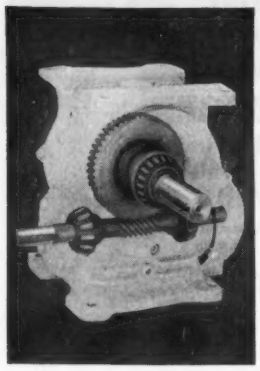
"Flexi-Cleaner"
LIGHTEST
MOST POWERFUL
SEWER MACHINE
on the Market

• Safe One-Man Operation • Reverses Right or Left • Instant Automatic Chuck and Clutch • 3 Speeds---125, 250 and 500 RPM • Cables 4 Times Stronger Than Any Other

FLEXIBLE PLUMBERTOOLS, INC.
3782 DURANGO AVENUE, LOS ANGELES 34, CALIFORNIA
FRANK DONOVAN COMPANY, 9 S. CLINTON ST., CHICAGO 6, ILLINOIS

▲ For more details circle NED-380 D9 on enclosed inquiry slip ▲

NEW LINK-BELT UNIVERSAL worm gear speed reducers



- THREE MOUNTING POSITIONS
- MORE HP PER POUND, PER DOLLAR
- AVAILABLE FROM STOCK

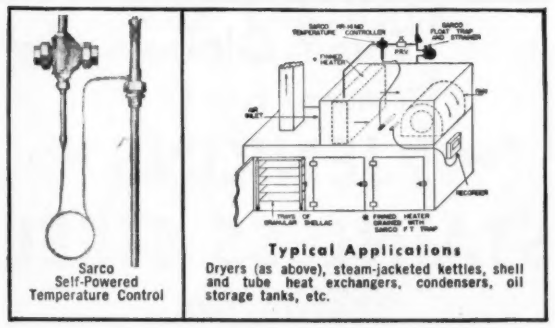
In *all* ways, Link-Belt's new *Universal* sets the pace among worm gear speed reducers. With simple changes of oil gauge and breather, it can operate in three different positions. And its simple, compact design offers more usable hp in a smaller housing . . . holds down initial cost . . . minimizes mounting space.

Universal worm gear speed reducers are available in 2½, 3, 3½ and 4 inch centers with ratios of from 5-1/6 to 60 to 1.

FOLDER 2724 contains complete data. Write *LINK-BELT COMPANY*, Dept. NED, Prudential Plaza, Chicago 1, Illinois.

LINK-BELT SPEED REDUCERS 15,023

▲ For more details circle **NED-381 D9** on enclosed inquiry slip ▲



End uncertain manual

TEMPERATURE CONTROL

. . . at low cost!

Here's how to get rid of uncertain, time-wasting manual temperature control . . . *throughout* your plant.

And without investing in complicated, costly equipment.

These SELF-POWERED Sarco controls are inexpensive, simple, dependable, accurate. Can be used for all but the few special jobs requiring costly, elaborate equipment. ½" size costs only about $100.

Self-powered . . . no electricity or compressed air needed. Self-contained. Packless. Simple—no gadgets. Easy to install by any pipefitter

Thousands in use by firms such as Colgate-Palmolive, Sinclair Refining, Swift.

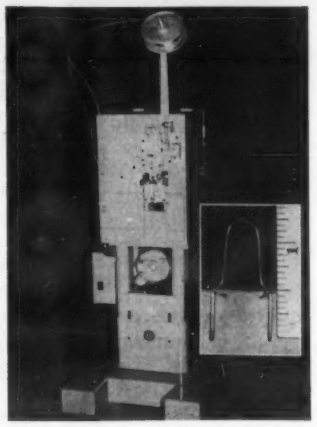
Sarco Co., Inc.
635 Madison Ave., N. Y. 22, N. Y.

SARCO 2237-F

▲ For more details circle **NED-382 D9** on enclosed inquiry slip ▲

WIRE FASTENER MACHINE

automatically makes loop fasteners suited for folding box materials



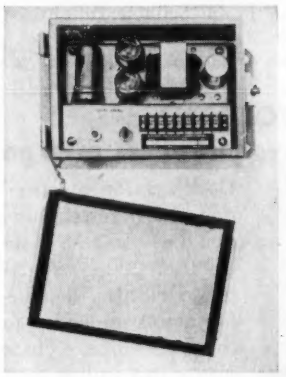
Up to 150 wire loop fasteners of the type illustrated can be formed and inserted into corrugated and folding box materials each minute by the Model 3C and 3C-A machine. Fasteners are usable in folding boxes, shipping containers, picture frames, set-up displays, tags, and many other products. Machine uses No. 22 round bookbinder's wire and is operated automatically when the board is positioned or by tripping a foot switch. An interlocking circuit may be provided for dual operation.

The loop type fastener with its deep insertion provides maximum protection of the board against damage when bending the loop, besides offering high pull-out strength. Fixed and adjustable base models are offered, each powered by a Westinghouse 1140 rpm, ¼ hp, totally enclosed motor. Operation is on 115, 220, or 230 v. Conversion unit to insert two fasteners at one time in flat board is available. Made by **Theodore M. Wright Inc.**, Box 286, Camden 1, N. J.

▲ For more details circle **NED-384 D9** on enclosed inquiry slip ▲

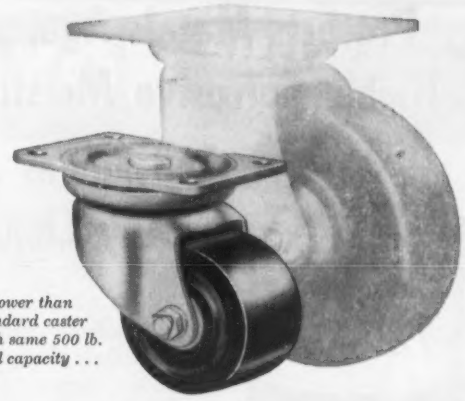
PROXIMITY CONTROL

for high speed on-off operations



Control of counting, batching, and transfer machines as well as accurate positioning are applications for this high speed proximity control. Connected to a proximity pickup by cable, it provides up to 3600 positive on-off operations per minute. Compact pickup unit at the point of work responds to metal parts in close proximity and causes operation of a relay which, in turn, switches mechanical or electrical equipment on or off. System can detect every part moving past the pickup or detect stationary parts when they reach a particular level opposite the pickup. Adjustable sensitivity control can be locked in place to guard against vibration. Input is 117 v, 50/60 cycles ac at 15 w; 230 v is optional. Made by **Electro Products Laboratories**, 4500 N. Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle **NED-385 D9** on enclosed inquiry slip ▲



2" lower than standard caster with same 500 lb. load capacity . . .

New low-slung caster

Here's a 3" diameter wheel caster with a conservatively rated load capacity of 500 lbs. each, or 2000 pounds per set of four.

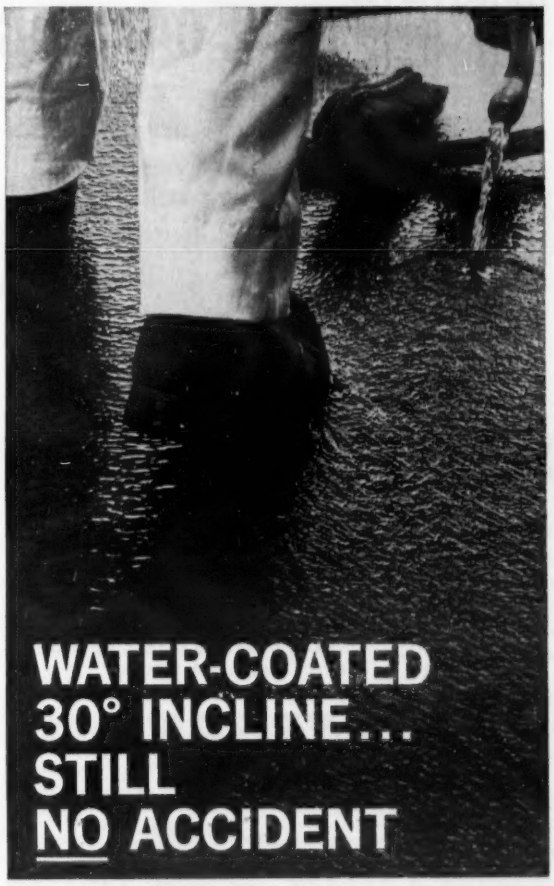
Especially desirable where low overall height is important, the caster raises load only 4 5/16" above the floor. It is designed for heavy business machines, and other heavy equipment that needs to be moved only occasionally.

Unusual strength stems from the very wide (1 13/16") tread of the "Canaphin" phenolic-canvas molded composition wheel. The new wheel is mounted in a super heavy Series "S99" swivel caster. For further information, see your distributor or write to:

THE
BASSICK COMPANY
BRIDGEPORT 5, CONN.
IN CANADA:
BELLEVILLE, ONT.

Symbol of Excellence SW Bassick — A DIVISION OF STEWART-WARNER CORPORATION

▲ For more details circle **NED-386 D9** on enclosed inquiry slip ▲



Get Long-Life Protection Against Slipping with Alcoa Abrasive Tread Plate

A slick, water-soaked surface in a vital production area with heavy traffic has all the elements of a safety director's bad dream. Only Alcoa® Aluminum Abrasive Tread Plate prevents such a nightmare. Made with tough particles of fused aluminum oxide, it remains slip-proof even when wet, oily or greasy. It prevents costly slipping accidents that can injure workers, cause production breakdowns and higher insurance rates.

Find out how you can eliminate hazardous conditions on ramps, aisles, catwalks and other areas with easy-to-install, corrosion-resistant Alcoa Abrasive Tread Plate. Check the coupon below, write Aluminum Company of America, 1689-D Alcoa Building, Pittsburgh 19, Pa., or call your nearest Alcoa Distributor.

ALCOA ALUMINUM

Your Guide to the Best In Aluminum Value

For Exciting Drama Watch "Alcoa Theatre," Alternate Mondays, NBC-TV, and "Alcoa Presents," Every Tuesday, ABC-TV

Aluminum Company of America
1689-D Alcoa Building, Pittsburgh 19, Pa.

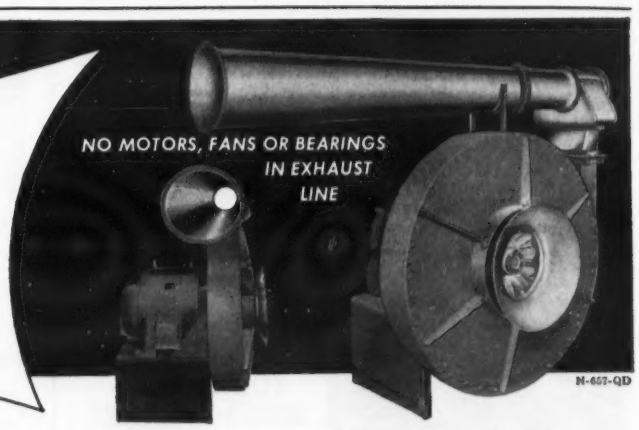
I'd like to see how Alcoa Abrasive Tread Plate prevents slipping.
Please send me FREE sample—also application, design and fabricating data.

Name _____
Title _____
Address _____
City _____ State _____

▲ For more details circle **NED-387 D9** on enclosed inquiry slip ▲

Now . . .

you can reduce bulk materials handling costs with *Quickdraft* high pressure exhausters



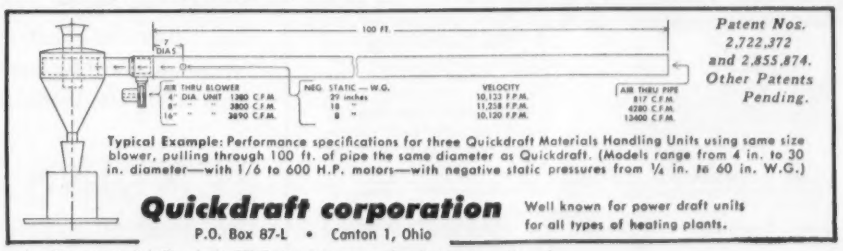
FOR MOVING:

Cement, Sand, Iron Oxide, Wheat, Corn, Salt, Limestone, Castor Beans, Knots, Blocks, Paper, Wool, Cotton, Oats, Rags, Rubber, Vegetables, Coal (Powdered), Shavings, Cork, Sawdust . . . **and any other materials that can be moved by air!**

IMPORTANT NOTICE

For resisting abrasive action, Quickdraft units can be rubber lined. For withstanding corrosive gases, all Quickdraft units are available in standard acid resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (PVC), and with plastic and Fiberglas coatings.

Time and maintenance savings usually pay for Quickdraft high-pressure exhausters in 6 to 18 months on materials handling jobs. Because material does not pass through blower, maintenance is negligible. Downtime for cleaning and replacing fans, motors and bearings is eliminated. Quickdraft units are also ideal for exhausting paint spray, abrasives, corrosive gases, noxious fumes and high temperatures. For Quickdraft engineering data on materials handling, industrial exhausting, heating plant venting, write today!



Typical Example: Performance specifications for three Quickdraft Materials Handling Units using same size blower, pulling through 100 ft. of pipe the same diameter as Quickdraft. (Models range from 4 in. to 30 in. diameter—with 1/6 to 600 H.P. motors—with negative static pressures from ¼ in. to 60 in. W.G.)

Quickdraft corporation
P.O. Box 87-L • Canton 1, Ohio

Well known for power draft units for all types of heating plants.

▲ For more details circle **NED-383 D9** on enclosed inquiry slip ▲

Protects Metals Against Highly Corrosive Moisture And Fumes . . . In Any Climate

Markal "D-A" Coatings will protect condensers and other air conditioning equipment against the destructive effects of cooling water, salt spray and other highly corrosive agents in the refrigeration industry. Markal "D-A" also affords complete protection against rust.

Markal "D-A" Coatings are applied by brush or spray. They will withstand any extremes of cold or hot temperatures up to 600°F., and they can be used successfully in any climate.

For a free sample of MARKAL "D-A" Coatings write direct on company letterhead, stating corrosive conditions, temperatures. **The MARKAL COMPANY,** 3053 West Carroll Avenue, Chicago 12, Illinois.

▲ For more details circle **NED-389 D9** on enclosed inquiry slip ▲

FREE NEW CATALOG

- Full description of the most comprehensive line of strapping equipment and materials available.
- How-to-do-it information . . . uses for various tools and equipment, material specifications, strapping recommendations.
- Complete listing and description of accessory supplies.
- Up-to-date listing of local sources of supply.

FOR YOUR PERSONAL COPY OF THIS 52-PAGE CATALOG CIRCLE READER SERVICE CARD, OR WRITE:

A.J. GERRARD AND COMPANY
1954 Hawthorne Boulevard • Melrose Park, Illinois

▲ For more details circle **NED-390 D9** on enclosed inquiry slip ▲

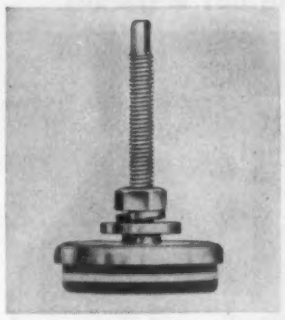
AERO-SEAL JET Hose Clamps have a thousand and one shop and maintenance uses for fastening hose, pipe, tubing and other clamping needs. Made of 302-18-8 stainless steel alloy, they last longer. Bands won't corrode. A few turns of the precision worm gear and they're tightly attached for keeps. Yet they can be removed in a jiffy and re-used over and over. Ask your supplier for genuine AERO-SEALS — Jet or regular.

Aero-Seal JET
QUICK-ATTACH HOSE CLAMPS

BREEZE CORPORATIONS, INC. 700 LIBERTY AVENUE UNION, N.J.

▲ For more details circle **NED-391 D9** on enclosed inquiry slip ▲

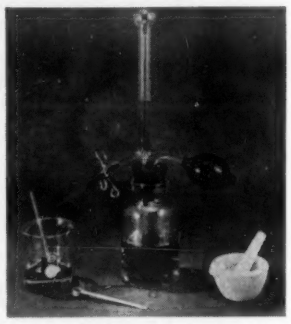
LEVELLING MACHINERY MOUNT
embodies vibration control pad



Type H Unisorb vibration control pad is employed in the Series 20 Level-Rite machinery mount. Held in an all-steel housing which supports a levelling post and lug, pad absorbs up to 85 per cent of the transmitted vibration. Mount is designed for individual loadings up to 200 lb. Screw post is free floating to compensate for uneven or pitched floors. Mount is available in sets of four or six as original equipment, or for installation on existing equipment. Made by **Felters Co.,** Unisorb Div., 210 South St., Boston 11, Mass.

▲ For more details circle **NED-392 D9** on enclosed inquiry slip ▲

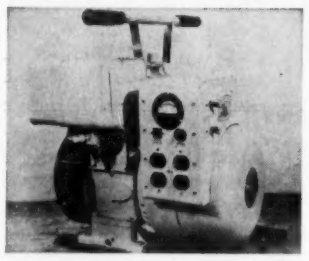
SALT BATH TEST KIT
rapidly determines neutrality



Periodic checks with this test kit facilitate determination of chemical changes in the neutrality of heat treating salt baths. The kit permits rapid and simple testing, insures accurate control, and prevents possible decarburization during neutral hardening, high speed preheating, or high speed hardening of alloy steels. An operator can be trained in 15 min to use the kit. Made by **A. F. Holden Co.,** 11300 Schaefer Highway, Detroit 27, Mich.

▲ For more details circle **NED-393 D9** on enclosed inquiry slip ▲

ELECTRIC GENERATORS
two 120-v single-phase units offered



Designed for construction and industrial use, Model 3500AS and 4500AS 120-v single-phase electric generating plants are added to company's line. These plants can utilize their entire capacity from one outlet, or distribute it among the four outlets with which each unit is equipped. Features include a built-in rotation meter with red and green color indicator, an electric starter, shock-absorbing feet, built-in carrying handles, battery charger, extra plug-in receptacles, and four-cycle air-cooled engines. Made by **Pacific Mercury,** 14052 Burbank Blvd., Van Nuys, Calif.

▲ For more details circle **NED-394 D9** on enclosed inquiry slip ▲

This Exclusive
SURETY GLOVE COMBINATION SOLVES MORE HAND PROTECTION PROBLEMS
than any other we know

SURESEAL
(HYCAR)
TURN-CUFF INDUSTRIAL GLOVES

Tests prove Sureseal's amazing long life—ten times and more wear than other materials. Since Surety makes gloves from all materials you may be sure of test impartiality. Adding Surety's famous safety feature, Turn-Cuffs, the barrier to dangerous liquids, provides the maximum hand safety and comfort to make willing hands and willing workers. Ask your jobber or write Dept. N. The Surety Rubber Co., Carrollton, Ohio.

TEST
at our expense
Send for slide rule showing gloves best to resist chemicals, acids, oils, solvents, etc. Tell us your glove need, too . . . we'll send sample pair.

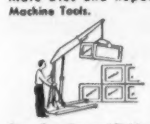
In Canada: Safety Supply Co., Toronto

▲ For more details circle **NED-395 D9** on enclosed inquiry slip ▲

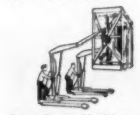
Stack-Or-Lift Palletized Loads.

Load Trucks and Lay Pipe with Convertible Mast.

Mate Dies and Repair Machine Tools.


Store Supplies and Finished Products.

Lift and Tilt Drums.


Move Large Machines with Dual Cranes.

FOR VERSATILE LIFTING POWER
specify
RUGER MULTI-PURPOSE MOBILE HYDRAULIC CRANES

PRICED AS LOW AS $149.00 TM ¼

NEW STACK-OR-LIFT ACCESSORY AVAILABLE For ½, 1 and 2 ton cranes.

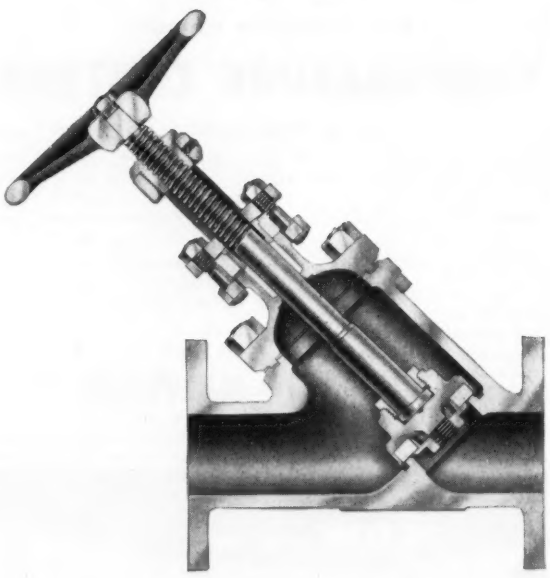
Ruger mobile hydraulic cranes reach-in-under-over . . . lift more for less. Only Ruger enables one man to combine almost all lifting, stacking and moving jobs into one operation. Ruger Multi-Purpose crane models are: floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable legs and retractable outrigger for side lifting. Variable speed hydraulic controls at no extra charge. Electric models optional. Get the facts about versatile lifting power, send for data today.

RUGER The Crane with 1000 uses . . . capacities ¼ to 3 ton.

RUGER EQUIPMENT INC.
619 West Fourth St., Uhrichsville, O.
N-654-RE

▲ For more details circle **NED-396 D9** on enclosed inquiry slip ▲

This Y Globe
shows it pays to
Specify JENKINS for STAINLESS STEEL
Valves, too



It's hard to beat Jenkins at making valves, no matter what the material. Compare, for example, this Jenkins Fig. 1335 Stainless Steel Y Globe Valve with any on the market. The *features* tell you: *Here is superior design and construction.*

No picture, however, can show the quality of the castings . . . the precision machining . . . the rigid inspection and testing that went into this Jenkins Valve. Yet these are as important as design and metal alloys in assuring long, dependable, economical valve service.

SEND FOR NEW CATALOG 595S of Jenkins Stainless Steel Valves. It gives full details about Jenkins patterns, in a choice of alloys that satisfy the requirements of practically all corrosive services. Jenkins Bros., 100 Park Avenue, New York 17.

JENKINS VALVES
Sold Through Leading Distributors Everywhere

▲ For more details circle **NED-397 D9** on enclosed inquiry slip ▲

LYON COAT RACKS

Sturdy, formed square tubular uprights, cantilever shelves. Upper hat shelves and bottom shelf are slot-ventilated for quick drying. Skid domes on base. Gray baked enamel finish. Furnished with hardwood hangers. Shipped knocked down.

2 SIZES
6-Capacity—24" wide, 16½" deep, 77⅞" high
12-Capacity—48" wide, 16½" deep, 77⅞" high
Racks for attaching to wall also available

Write for free 84-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

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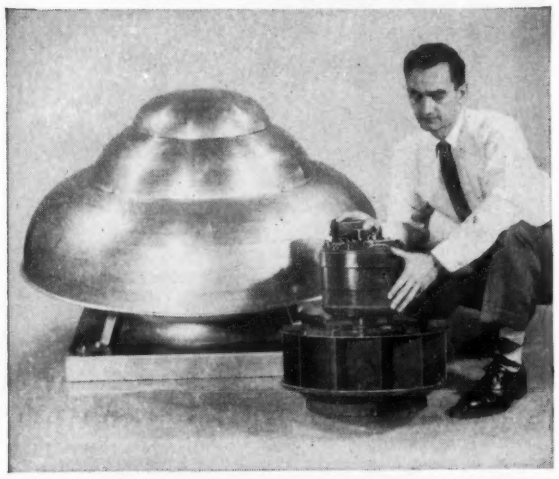
COOL CUSTOMER



ILG POWER ROOF VENTILATORS

Ilg Power Roof Ventilators—*airfoil* centrifugal fan type with backward curved (BC) blades—eliminate heat build-up of *any* type. Ilg-built *self-cooled,* direct-connected motors; *patented* pressure-type cooling of separate motor compartment (patent No. 2711682). Send for Bulletin No. 2701.

ILG ELECTRIC VENTILATING CO.
2806 N. Pulaski Road, Chicago 41, Ill.
Offices in 57 Principal Cities
Member of Air Moving and Conditioning Association Inc. (AMCA)

▲ For more details circle **NED-399 D9** on enclosed inquiry slip ▲

LYON HANGING CABINET

24" Wide, 12" Deep, 33" High

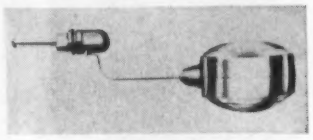
Mount on any wall to increase storage space without using floor space. Sides and back punched for pegs. Three point latch with padlock attachment. Complete with shelf, socket tray and 25 adjustable pegs. Lyon Green baked-on enamel.

Write for free 84-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-400 D9** on enclosed inquiry slip ▲

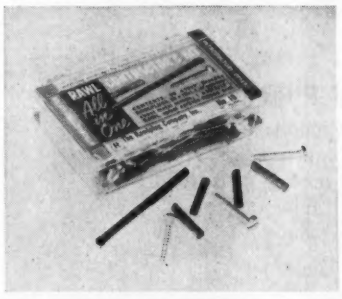
FLOAT VALVE
miniature 2½-gpm capacity unit



Liquid level in evaporative coolers, humidifiers, and various industrial processes is automatically and accurately maintained by the Bobby miniature float valve assembly. It has a stainless steel seat, positive shut-off, and uses ¼-in. or larger tubing. Capacity is 2½ gpm at 50-psi inlet pressure. Similar unit, the Red Bobby, is for temperatures to 250° F. Made by **Robert Mfg. Co.,** 9035 Venice Blvd., Los Angeles 34, Calif.

▲ For more details circle **NED-401 D9** on enclosed inquiry slip ▲

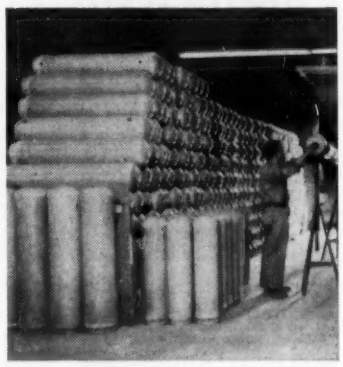
MASONRY FASTENER KIT
contains anchors, screws, and drill



Everything needed to fasten fixtures to any type of masonry is contained in the All-in-One Kit including Rawlplug anchors, matching pan-head sheet metal screws, and a Rawl spiral carbide masonry drill. Each kit is packaged in a clear plastic, hinged-lid box. Three kit sizes are: No. 8 with 60 No. 8 Rawlplugs, 60 No. 8 x 1¼-in. screws, and one 11/64-in. drill; No. 10 with 50 No. 10 x 1-in. plugs, 50 No. 10 x 1¼-in. screws, and one 3/16-in. drill; and No. 12 with 40 No. 12 x 1-in. plugs, 40 No. 12 x 1¼-in. screws, and one ¼-in. drill. Made by **Rawlplug Co.,** 246 Petersville Rd., New Rochelle, N. Y.

▲ For more details circle **NED-402 D9** on enclosed inquiry slip ▲

PLASTIC PRESSURE TANKS
for gases, chemicals, and liquids



Constructed of seamless, reinforced plastic, these pressure tanks for gases, chemicals, and liquids weigh only 30 to 50 per cent as much as comparable metal tanks. They will not dent or rupture under shock and will not corrode or become contaminated. They are conservatively rated for 500-psi service and are available in 6 x 32, 8 x 36, 10 x 48, and 13 x 54-in. diameters and heights, respectively. Made by **Structural Fibers, Inc.,** Fifth Avenue, Chardon, Ohio.

▲ For more details circle **NED-403 D9** on enclosed inquiry slip ▲

Marseal
the SURE joint sealer to permanently prevent leakage!

Try it! You'll agree no other pipe thread and joint sealing compound seals like Marseal.

Marseal makes a permanent, solvent-proof flexible connection that lasts until taken apart. It is guaranteed!

- **Insoluble in gasoline, oils, kerosene, L-P gas, refrigerants, chlorinated hydrocarbons**
- **Makes permanent joints — easy to take apart.**
- **Withstands pressure and vibration.**

Write now for complete information and your special introductory offer!

MARGATE MANUFACTURING CO
MARGATE, NEW JERSEY

▲ For more details circle **NED-404 D9** on enclosed inquiry slip ▲

LYON STEEL EQUIPMENT

FREE! 84 Page Catalog

● Yours for the asking . . . this latest Lyon catalog #100. 84 pages illustrating and describing in detail the world's most diversified line of steel equipment. Whatever your steel equipment requirements, this Lyon catalog will help you fill them better. Send for your copy today.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-405 D9** on enclosed inquiry slip ▲

Last 20% longer than other high speed steel bands

After years of development, these new "Blu-Mol" bands have been exhaustively tested in the laboratory and proved on job after job. Cost less per cut than any other metal cutting blade. 10 times faster or 30 times longer lasting than carbon steel bands. *High temperature hardness* keeps cutting edge hard even under most punishing conditions. Designed especially for production cut-off work. The best bands made.

MILLERS FALLS COMPANY
Dept. NED-7, Greenfield, Massachusetts

World's broadest, most highly developed line of metal cutting saws

▲ For more details circle **NED-406 D9** on enclosed inquiry slip ▲

LYON WORK BENCHES

NEW MODULAR TYPE

Permits individual bench or multiple-bench arrangement to requirements. Steel top, cabinet and four drawers. Drawers are 15¾" wide, 20" deep, 6¾" high. Available with pressed wood or hardwood top, if desired. 28" deep, 34" high and 60" or 72" long.

Write for free 84-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-407 D9** on enclosed inquiry slip ▲

Easy to operate. Extremely durable. Simple to maintain.

For your files: Complete specifications and price list for all models. SEND INQUIRY CARD TODAY.

"CADILLAC" LOW-COST WINCH HOIST

Every Hoist PRE-TESTED for MAXIMUM PERFORMANCE MAXIMUM SAFETY

Check these features:

- Precision-built of certified materials.
- High-strength, corrosion-resistant TENZ-ALOY castings. Tensile strength 32,000.
- Light weight and compact.
- Stainless steel springs and shafts.
- Manganese bronze cam reduces pawl wear.
- "Safety-valve" handle breaks at severe overload.
- Drop-forged, heat-treated hooks. Safety hooks available.
- Equipped with galvanized, pre-formed aircraft wire rope.
- Tested to full 50% overload.
- Full year guarantee against defective workmanship and materials.

Model 202WX 1½-ton capacity equipped with 20' of 3/16" galvanized wire rope. Lifting ratio approx. 30 to 1. Weight 10 lbs. Min. distance between hooks 25", 20' single, 10' double line. Models from ½ to 2 tons cap. Prices: $29.50 and up.

ALUMINUM PRODUCTS, INC.

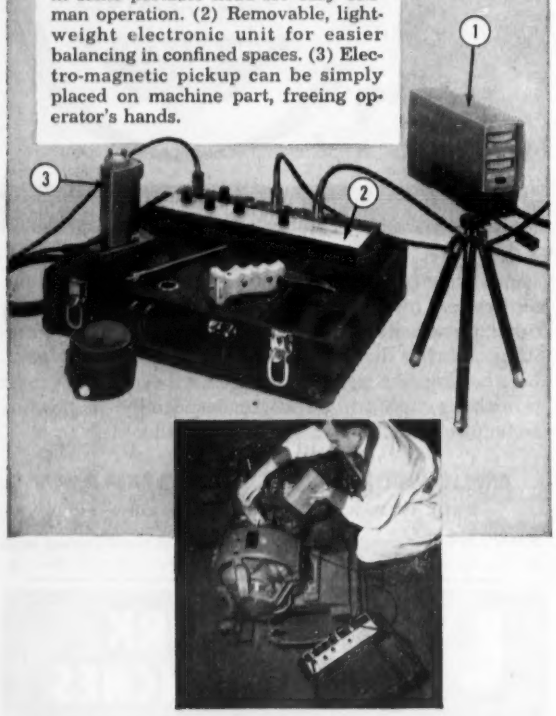
P.O. BOX 1462-N FORT LAUDERDALE, FLORIDA

▲ For more details circle **NED-408 D9** on enclosed inquiry slip ▲

All-New Precision Stewart-Warner

Portable Balancer

Engineered for precision balancing . . . designed for ease of operation. (1) Stroboscope and meters mounted in same portable head for easy one-man operation. (2) Removable, lightweight electronic unit for easier balancing in confined spaces. (3) Electro-magnetic pickup can be simply placed on machine part, freeing operator's hands.



cuts maintenance costs by enabling you to eliminate even smallest vibrations!

Stewart-Warner's new portable balancer is priced to make it economical for even small shops to own their own balancing equipment. Its portability permits easy *in-place* balancing and vibration analysis of assembled machinery. Indicates angle and amount of unbalance . . . determines rpm and amount of vibration. Helps produce finer finishes and closer tolerances . . . aids in reducing noise and worker fatigue . . . permits quality control *before* equipment is put in operation or shipped to a customer.

Fits many applications: blowers, fans, grinding wheels, turbines, rolls, motors, cutterheads, machine tool spindles, gears, couplings, chucks, and all other rotating machinery.

Also: a complete line of permanently installed cradle type balancers to meet every job type or short run precision balancing requirement.

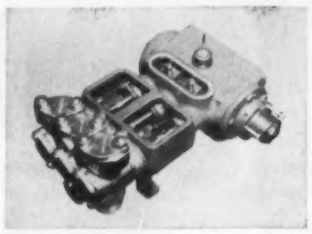
WRITE FOR FREE CATALOGS!

Symbol of SW Excellence

STEWART-WARNER CORPORATION
INDUSTRIAL BALANCER DEPARTMENT
Dept. SS-49, 1850 Diversey Parkway, Chicago 14, Ill.

▲ For more details circle **NED-409 D9** on enclosed inquiry slip ▲

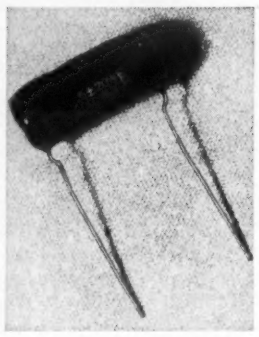
POWER PLUNGER PUMP
designed for salt-water disposal



Interchangeable plungers can be used to produce volumes to 936 barrels per day and pressures to 1780 psi in this P-175 14-hp power plunger pump. Designed for salt-water disposal, the triplex pump has 1¾ - in. stroke, measures 27⅜ x 21¾ x 12 5/16 in., and weighs 395 lb. Features include straight fluid-flow design, nylon-fitted valves, one-piece cylinder head stuffing box, prelubricated packing, offset crankshaft, and gravity-flow lubricating system. Made by **Frank Wheatley Pump & Valve Mfgr.**, Box 1948, Tulsa, Okla.

▲ For more details circle **NED-410 D9** on enclosed inquiry slip ▲

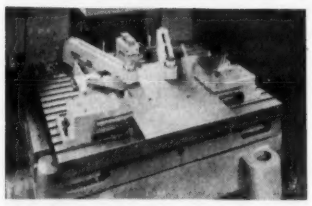
CAPACITORS
Mylar-paper dipped type



Dipped in a Durez phenolic resin and vacuum impregnated for moisture protection, Type MPD Mylar-paper dipped capacitors have a dielectric strength of two or two and one-half times the rated voltage. Long-life line includes five case sizes in these ratings: 200 wv dc, 0.018 to 5 mfd; 400 wv dc, 0.0082 to 0.33 mfd; 600 wv dc, 0.0018 to 0.25 mfd; 1000 wv dc, 0.001 to 0.1 mfd; 1600 wv dc, 0.001 to 0.05 mfd. Standard tolerances are 10 and 20 per cent, with closer tolerances upon order. Made by **Electro Motive Mfg. Co.**, Willimantic, Conn.

▲ For more details circle **NED-411 D9** on enclosed inquiry slip ▲

T-SLOTTED PLATES
mount punching and notching units



Built of low carbon rolled steel to close tolerances, this improved line of T-slotted plates is finish ground on top and bottom on all but extremely large sizes. Plates are used for mounting setups of independent Strippit punching and notching units, as well as for other press and press brake requirements. Stocked widths are 12, 18, 24, and 30 in. with specified lengths. Prices for the entire line have been reduced. A 30 x 72-in. plate, formerly priced at $648, is now $495. Made by **Wales-Strippit, Inc.**, 227 S. Buell Rd., Akron, N. Y.

▲ For more details circle **NED-412 D9** on enclosed inquiry slip ▲

FAST, Lightweight Greenlee Hydraulic Bender for 1/2"-3" Conduit and Pipe

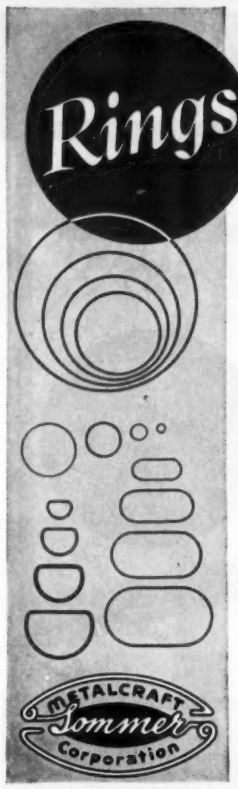
full 90° bend with one ram stroke

New GREENLEE No. 883 Bender quickly makes accurate bends in eight sizes of conduit from ½" through 3". One-man-operated with hand pump or power pump. One set of rotating supports for all eight conduit sizes. Conduit easily inserted and removed from front. "Quick-removal," positive-locking support pins. A compact, portable tool for faster, lower cost conduit work. See your distributor or write for Bulletin E-290.

A COMPLETE LINE OF HYDRAULIC CONDUIT BENDERS

GREENLEE TOOL CO. GREENLEE
1767 Columbia Ave., Rockford, Illinois

▲ For more details circle **NED-413 D9** on enclosed inquiry slip ▲



. . . one of many wire products we make

Let Sommer solve your ROUND wire ring problems—including ring assemblies such as fan guards, grills, etc. Butt-welded and unwelded rings are our specialty.

Any gauge of wire up to ¼"—any sizes up to 24" in diameter, Sommer's modern, high-production equipment assures close-tolerance job specifications. Complete facilities for making "D" and oval rings as well.

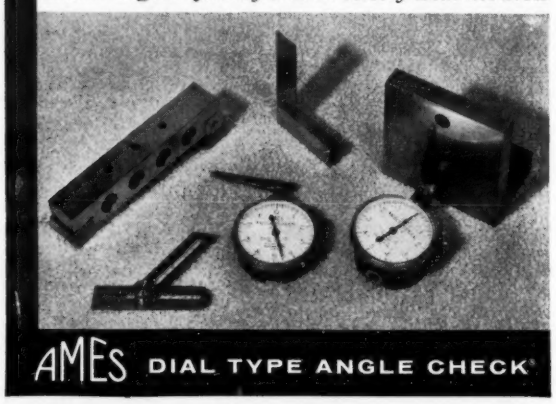
Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome, and mill finishes.

Let us work with you in designing and producing any wire shapes or forms you require. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▲ For more details circle **NED-414 D9** on enclosed inquiry slip ▲

Check Angles Quickly and Precisely with the New



AMES DIAL TYPE ANGLE CHECK

ANGLE CHECK, a new dial type measuring instrument, offers you a fast, low cost, extremely accurate method for checking angular parts.

There are two ANGLE CHECKS: Model V for vertical work; Model H for horizontal. Either model takes AMES 200 Series backs. Contact blades are available in various shapes and lengths.

Ruggedly built, ANGLE CHECK saves hours in checking angles on simple and intricate shapes.

The contact blade can be set to a predetermined angle with the dial "0" under the indicator hand. A range of 5°—plus or minus—in increments of 5' can be obtained. ANGLE CHECK is accurate to 5'. Write today for complete information.

Representatives in Principal Cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.
Canadian Office — B. C. Ames Co., 45 Oriole Parkway, Toronto
MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

▲ For more details circle **NED-415 D9** on enclosed inquiry slip ▲

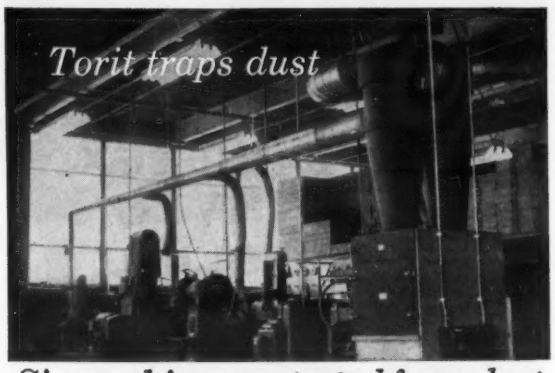
Specify **the Best in Engraved Tools**

The quality of your product deserves equal quality in your marking.
Our complete inventory of alloy steels permits instant selection to meet your requirements.
Style of lettering is tailored to your job.
Quotations furnished promptly upon request.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

▲ For more details circle **NED-416 D9** on enclosed inquiry slip ▲



Six machines protected from dust by Torit for $666.15

This Torit Dust Collector, Model 219FM, complete with accessories, was installed by the Mohr Lino Saw Co., Skokie, Ill., to protect 3 belt sanders and 3 other grinders (2 grinders hidden from view) from destructive dust—at a total cost of just $666.15!

After one year's operation, Mohr Lino Saw says this about their *low-cost* Torit installation: "The Torit installation has kept our shop *cleaner*, our operators *happy*, and *protected vital* machinery."

You too can achieve greater machine protection and cleaner working conditions by trapping dangerous or valuable dust *at its source* with a completely *self contained* and *portable* Torit Dust Collector. For full details write to:

TORIT MANUFACTURING CO.
Dept. 203; Walnut and Exchange Sts., St. Paul 2, Minnesota

▲ For more details circle **NED-417 D9** on enclosed inquiry slip ▲

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

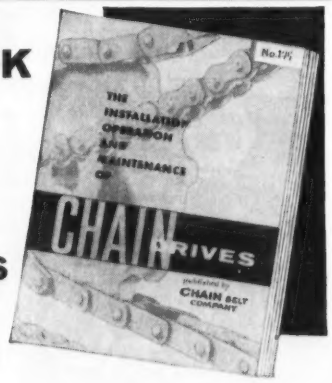
For stainless steel soldering, use RUBY'S Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

▲ For more details circle **NED-418 D9** on enclosed inquiry slip ▲

FREE BOOK tells you how to make your drive chains last longer



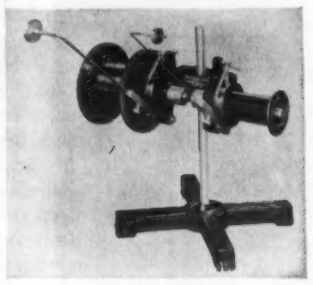
Thousands of chain drive dollars have been saved—countless down-time hours have been eliminated—by following the suggestions given in the new booklet, "Care and Maintenance of Chain Drives." Send for your free copy today.

CHAIN BELT

CHAIN Belt Company
4686 W. Greenfield Ave., Milwaukee 1, Wis.
(In Canada: CHAIN Belt (Canada) Ltd.
1181 Sheppard Ave. East, Toronto)
☐ Please send new booklet, "Care and Maintenance of Chain Drives."
☐ Have a Rex Man call.
Name.....
Company.....
Address.....
City.....*Zone*.....*State*.....

▲ For more details circle **NED-419 D9** on enclosed inquiry slip ▲

WIRE TENSION CONTROL
adjustable double spool type unit



Screw and light, medium, or heavy springs control wire tension on the Model T-57 double-spool wire tension device. Also available as a single spool, right or left-hand unit, it has fiber brake shoes which ride on the ground surface of a steel drum. The steel spindles run on ball bearings. Device accommodates No. 16 to 42-gage wire and spools with up to 6-in. diameter. For wire above No. 38, a spring tension arm is offered. Made by **Associated Production Co.**, 162 N. Clinton St., Chicago 6, Ill.

▲ For more details circle **NED-420 D9** on enclosed inquiry slip ▲

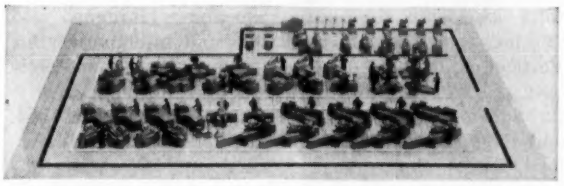
LIGHT SWITCH
operates silently, glows in dark

Operating button of this Rocker-Glo light switch glows in the dark and works by pushing, rocking, flicking, or pressing. The No. 221 switch is available in the Despard type with strap or interchangeable, also with a narrow rocker for a tumbler switch plate. It is furnished with single or double-pole, three or four-way contacts and is rated 15 or 20 amp, 120/277 v ac. Both pressure and screw terminals are obtainable. Made by **Pass & Seymour, Inc.**, Solvay Station, Syracuse 9, N. Y.

▲ For more details circle **NED-421 D9** on enclosed inquiry slip ▲

SCALE MODELS
in standard and special pieces

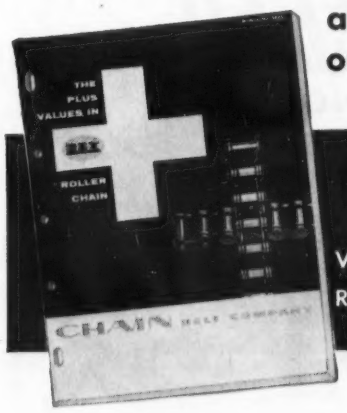
Three-dimensional miniature scale models are offered for incorporation into scaled layouts of plants and other facilities. They are reproduced accurately to



scale within a few thousandths of an inch. Duplicates of many pieces of standard equipment are carried in stock. Any special type of scaled-down equipment can be produced, even with moving parts. Use of these miniature 3-D models eliminates errors in laying out new buildings or transferring equipment in existing structures. Made by **Comet Metal Products Co.**, 91-13 132nd St., Richmond Hill 18, N. Y.

▲ For more details circle **NED-422 D9** on enclosed inquiry slip ▲

GET BULLETIN 5725 and find out about...



THE PLUS VALUES IN REX ROLLER CHAIN

Yes, find out about the special design and manufacturing techniques that make an important difference...*put a plus value* in Rex Roller Chain. Learn about the rigid quality control that gives you a better chain...consistently.

Bulletin 5725 explains why Rex Roller Chains last longer ...why Rex Roller Chains have greater resistance to fatigue and failure. Write today for your copy of Bulletin 5725, "The Plus Values in Rex Roller Chain." CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN Belt Canada Ltd., 1181 Sheppard Ave. East, Toronto Ontario

CHAIN BELT

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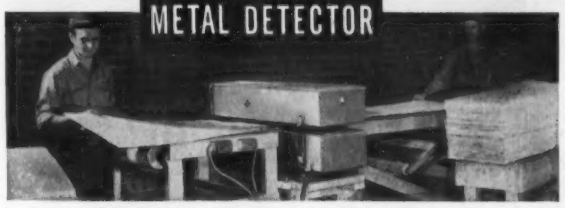
Mr. Hi Frequency, the Electronic "Counter-Spy" Traps Foreign Metal Agents



This electronic counter-spy assures positive protection against sabotage of quality by stray metal particles in your process or production line. Magnetic or non-magnetic metal particles, no matter how deeply embedded, immediately trigger a warning or reject mechanism when they pass the compact Allis-Chalmers metal detector.

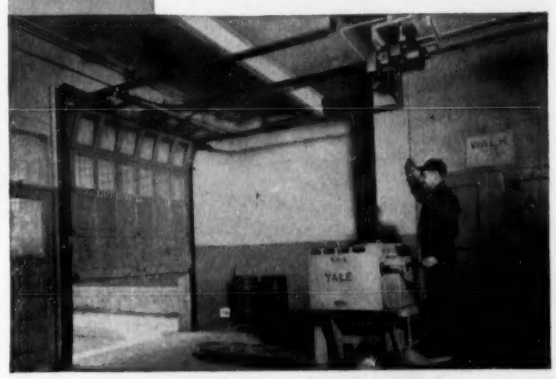
This device is economical to operate, permits conveyor speeds to 600 fpm, and is easily incorporated into any production setup. Ask your local A-C man for Bulletin 15B7217B, or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS A-5629

▲ For more details circle **NED-424 D9** on enclosed inquiry slip ▲

THE MARK OF QUALITY
BARBER COLMAN

DOOR OPERATORS
Pull switch saves man-hours and heat



Ask for Savings Bulletin

Open-door time is minimized, traffic kept moving. Also available with radio control installed on trucks. New booklet and computation show *how much* Barcol features save. Barber-Colman makes operators for overhead, swinging or sliding doors, and sliding gates. Your Barcol distributor sells, installs, guarantees, and services — look under "Doors" in phone book.

See catalog 7c/8a Sweet's Plant Engineering File.

BARBER-COLMAN COMPANY
Dept. 5-94 ROCKFORD, ILLINOIS

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FREE BOOK ON BEARINGS

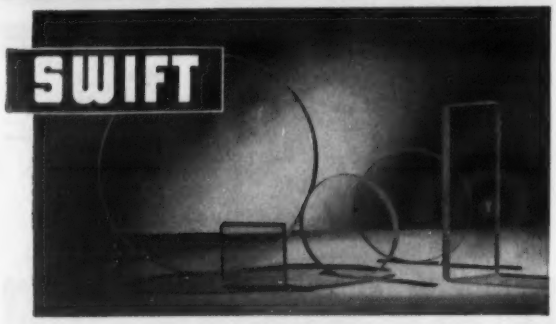
Gives you complete data on the industry's most complete line of mounted roller bearings—Shafer.

This new Shafer catalog is compiled specifically to help you meet the increased responsibilities of building greater speed, higher load capacities and longer life into your equipment.

It is packed with factual information on roller bearing design—specifications, lubrication, seals and installation features that protect your equipment. Send for your free copy. CHAIN Belt Company, 4686 W. Greenfield Avenue, Milwaukee 1, Wis. In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave., East, Toronto.

SHAFER® BEARINGS
CHAIN BELT

▲ For more details circle **NED-426 D9** on enclosed inquiry slip ▲



a fast, convenient source for

PYREX SIGHT GLASSES

We can supply perfectly true circles, precision-ground from heat-resistant polished plate glass. Used by chemical companies from coast to coast —resist clouding, pitting, chemicals (except HF and strong hot caustic solutions).

Squares, rectangles or odd shapes in 8 thicknesses (⅛" to 1"), sizes up to 24" x 60", also available for immediate shipment. Write, wire or phone for bulletin or quotation.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

▲ For more details circle NED-427 D9 on enclosed inquiry slip ▲

NEW

Oiltight Control Accessories

Illuminated Push Button

Here are a few of the latest additions to Allen-Bradley's quality line of Bulletin 800T oiltight control accessories. All are of simple design, ruggedly constructed, and will provide complete satisfaction wherever used. Send for Publication 6090.

Encapsulated Pilot Light

Two-or Four-Way Selector Switch

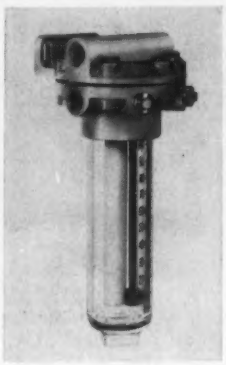
Time Delay Push Button

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
MOTOR CONTROL
QUALITY

▲ For more details circle NED-428 D9 on enclosed inquiry slip ▲

LIQUID CHEMICAL FEEDER operates at 0.1 to 4 gal per day

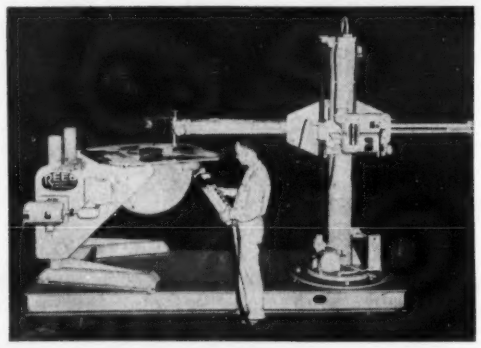


Micro-H liquid chemical feeder accurately meters, regulates, and feeds chemicals continuously at extremely low flow rates into a liquid stream. The semiautomatic unit has a built-in ejector, corrosionproof plastic body, and a porous stone to feed the liquid chemical at rates from 0.1 to 4 gal per day. The chemical must be free of suspended solids and should be sufficiently transparent to permit the scale to be seen. Hypochlorite solutions, defoaming agents, scale and rust inhibitors, detergents, and other liquid chemicals can be fed. Companion Super-H liquid chemical feeder with a flow rate from 1 to 500 gal per day uses a variable area metering tube. Made by Fischer & Porter Co., 27 Jacksonville Rd., Hatboro, Pa.

▲ For more details circle NED-429 D9 on enclosed inquiry slip ▲

WELDING FIXTURES welding head boom and positioner feature vertical adjustment

Designed to permit longitudinal welding as well as welding head positioning, this 360-degree mast and boom fixture (shown at right) accommodates high



work load with minimum deflection. Hardened and ground steel ways are reversible and interchangeable. Vertical adjustment is made through an Acme screw operated by a double reduction gear. Boom drive is through a 10:1 ratio chain drive, double reduction box, and final rack and pinion located at the base. Overload and under voltage protection, 110-v operator's station, and four-direction limit switch are standard. Remote speed control and tachometer are optional.

The 6000-lb positioner (shown at left on platform) has a heavy work table mounted on a large ball race. Vertical adjustable table also has a power tilt operated by a magnetic brake motor through a double reduction gear box. Limit switch and overload and under voltage protection are included. Made by Webb Corp., Webb City, Mo.

▲ For more details circle NED-430 D9 on enclosed inquiry slip ▲

POWERED SWEEPING AT LOWEST COST

ROTA-BRUSHES SWEEP 40" PATH

The fastest way to sweep all litter and debris. 50,000 sq. ft. per hour. Easy to maneuver around boxes, crates and aisles. Saves time and money!

FREE DEMONSTRATION

Write for free booklet . . . no obligation

2¼ H. P. 4 CYCLE ENGINE

Parker FLOOR SWEEPERS

another achievement of
PARKER SWEEPER COMPANY
BOX 720-1 SPRINGFIELD, OHIO

▲ For more details circle NED-431 D9 on enclosed inquiry slip ▲

LIFTEX NYLON SLING

5700 lb. steel crankshaft on two 3" wide Liftex Nylon Slings at Beloit plant, Fairbanks, Morse & Co.

Strong! No Rivets! No Metal!

Lifts soft or highly finished materials without scratching. Chemically treated to resist grease, abrasion and many chemicals and solvents. Stock sizes to lift up to 13,500 pounds, special sizes made to order. All with safety factor of 5.

WRITE TODAY FOR BULLETIN R

THE CALDWELL COMPANY, INC.
1123 FOURTH AVE., ROCKFORD, ILL.

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NEW

COMPOSITE STAYNEW FILTER CATALOG OFFERED FREE

Now you can refer to this one concise catalog for information on all Dollinger Staynew Filters. It describes applications and shows construction details of each of the following:

- INTAKE FILTERS
- PIPE LINE FILTERS
- LIQUID FILTERS
- AUTOMATIC FILTERS
- DRY PANEL FILTERS
- VISCOUS PANEL FILTERS
- ELECTROSTATIC FILTERS

Dollinger also makes all types of special filters . . . consult your local Dollinger representative. But, write today for composite filter catalog. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

STAYNEW FILTERS **DOLLINGER**
Specializing in dry type filters for 35 years

▲ For more details circle NED-433 D9 on enclosed inquiry slip ▲

GET THIS NEW GRIPCO FASTENER MANUAL FREE!

This new technical bulletin gives all the engineering data and outstanding features of the Gripco line of locking fasteners, including Gripco Lock Nuts, Centerlock Nuts, Gripco and Centerlock Hi Nuts, Gripco and Centerlock Jam Nuts, Pilot-Projection Weld Nuts, Countersunk Weld Nuts, Clinch Nuts, the new Miniature Clinch and Weld Nuts, as well as Standard hexagon nuts in Steel or Brass. Full or Jam dimensions. Profusely illustrated, complete with application information on the self-locking features of the Gripco line, this manual should be in the hands of everyone who is faced with a fastener problem.

123

Send for yours today.

GRIP NUT COMPANY
106 Maple Ave., South Whitley, Ind.

▲ For more details circle NED-434 D9 on enclosed inquiry slip ▲

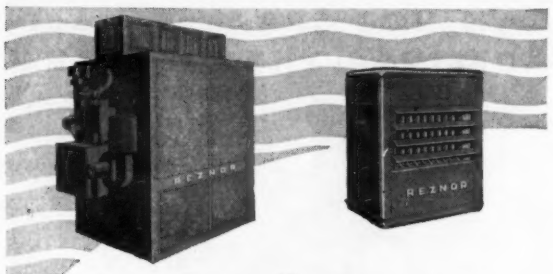
✓ DEBURRING
✓ CHAMFERING
✓ FACING, POINTING

Here is the machine that eliminates the need for tying up expensive lathes and screw machines for deburring rods and tubes, and it profitably replaces such costly methods as hand rolling pieces against a sanding belt or holding them against a rotating brush. The Pines End-Finishing Machine is *fast* and *accurate*. It squares the end, removes all the burr from the inside, and makes a uniform, accurate chamfer on the outside. Women operators commonly deburr up to 800 1-inch tubes per hour. It clamps, feeds, finishes in one motion — leaves one hand free for stock handling. Machine illustrated handles stock up to 2" O.D. Automatic air-clamping units and models for stock up to 5" also available.

Handles deburring, chamfering, facing operations simultaneously.

FREE BULLETIN
Find out how these machines save space and cut costs on wide range of work.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 641 WALNUT • AURORA, ILLINOIS
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY
▲ For more details circle NED-435 D9 on enclosed inquiry slip ▲



low installation cost

New building or old, it costs much less to install Reznor gas unit heaters than any other type of heating equipment. Just move them in, mount them in position, make simple fuel, electrical and vent connections and they're ready to go to work . . . producing and distributing heat right at the point of need.

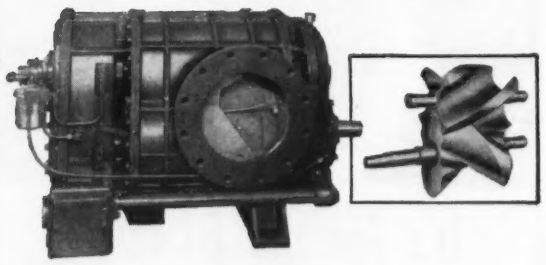
LOW INSTALLATION COST is just one of many reasons why Reznor heaters are right for so many plant heating jobs. These completely automatic packaged units also offer substantial savings on initial costs and on operating and maintenance expense. Whether you need one heater to eliminate a "trouble" spot or enough units for a complete plant heating system, ask your Reznor distributor for details or write for your free copy of "Modern Heating".

Look for Reznor under "Heaters-Unit" in the Yellow Pages

REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED UNIT HEATERS

Reznor Manufacturing Company, 41 Union Street, Mercer, Pa.
▲ For more details circle NED-436 D9 on enclosed inquiry slip ▲

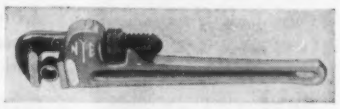
AXI-COMPRESSORS
formerly "Standardaire"



ROTORS NEVER TOUCH although they operate with clearances of a few thousandths . . . so there is no wear, no need for internal lubrication. I-R AXI-COMPRESSORS deliver oil-free air. Unique axial-flow design gives you more output per pound of compressor than any other type . . . with less power consumption. Sizes range from 100 cfm to 15,000 cfm, for vacuums to 25-inches, pressures to 15 psi. *Write for Bulletin 11,001.*

Ingersoll-Rand 17-661
11 Broadway, New York 4, N. Y.
Over 1000 types and sizes of I-R compressors . . . 1/4 to 6000 hp.
▲ For more details circle NED-437 D9 on enclosed inquiry slip ▲

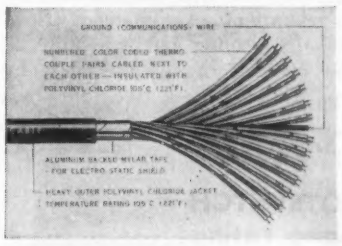
PIPE WRENCH
has natural grip malleable handle



Hardened forged jaws and a pipe-gripping assembly designed for fast adjustment and heavy duty service are built into this Nye pipe wrench. Its break resistant malleable iron handle is formed and shaped to assure a natural, comfortable grip by the user. Sizes range from 6 to 48 in. Made by **Nye Tool Co.**, 4126 W. Fullerton Ave., Chicago 39, Ill.

▲ For more details circle NED-438 D9 on enclosed inquiry slip ▲

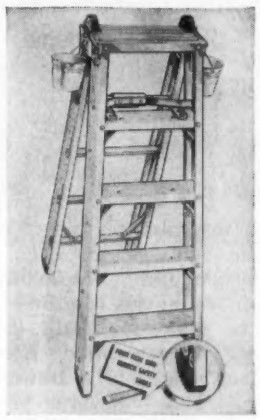
MULTICONDUCTOR CABLE
contains 6 to 56 pairs of wires



Polyvinyl insulated multiconductor Thermo-Cable with 6 to 56 pairs of thermocouple conductors is easy to handle and inexpensive to install. Its outer jacket resists moisture, abrasion, heat, and chemical action. The cable can be installed in conduit, without conduit, in open troughs, or in raceways. Individual ISA color-coded conductors are insulated for 221° F and aluminum-backed Mylar tape, wrapped around the conductor bundle, provides electrostatic shielding. Cable is made from either 20 or 16-gage solid wire, or in 17-gage stranded for flexibility. All cables have a copper wire which serves as a ground or communications wire. Multijunction terminal boxes for use with Thermo-Cable are available. Made by **Thermo Electric Co.**, Saddle Brook, N. J.

▲ For more details circle NED-439 D9 on enclosed inquiry slip ▲

ALUMINUM LADDER
can be used in five ways



Master-All aluminum ladder can be used as a stepladder, extension or stairway ladder, two individual ladders, or as a scaffold base. It has rubber safety shoes on all four feet, 3¼-in. wide safety treads and siderails, and 1⅛-in. serrated aluminum rungs which are Swej-Lokd into back siderails. Ladder is offered in 4, 5, 6, 7, 8, 9, and 10-ft sizes which, as extension ladders, extend to 6 to 18 ft. Weights range from 13 to 29 lb and prices from $24.95 to $52.95. Made by **Lincoln Mfg. Co.**, 70 W. Main St., Westminster, Md.

▲ For more details circle NED-440 D9 on enclosed inquiry slip ▲

new way to make products better, more efficient...

ACE PRECISION
NYLON BALLS

Precision manufactured from DuPont Nylon Resin to close tolerance of ±.001 on diameters and .001 on sphericity, Ace Nylon Balls give design flexibility and production economy. Light in weight... tough at low temperatures... stable at high temperatures... resistant to corroding chemicals such as sulphuric acid, etc.... almost abrasionproof... these mass-produced balls have hundreds of industrial applications. Come in 14 standard sizes from ⅛" to ¾".

Complete facilities for fabrication of plastic parts for all industries. Estimates submitted promptly on receipt of blueprints or specifications.

Write for samples, Bulletin N, price list, TODAY.

EXTRUSION MOLDERS AND FABRICATORS

ACE PLASTIC COMPANY
91-28 Van Wyck Expwy., Jamaica 35, N. Y. JAmaica 3-5500
▲ For more details circle NED-441 D9 on enclosed inquiry slip ▲

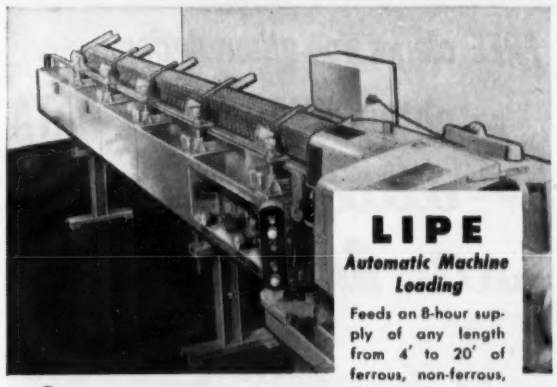
FOR Displays, Decorations, Insulation, Labeling, . . . other uses
WRITE for free Hansen Booklet.
36 MODELS 80 STAPLE SIZES

POINTS THE WAY TO SPEEDIER TACKING!

HANSEN AUTOMATIC TACKERS
The clean, well-built design of Hansen Tackers, plus their rugged construction, points the way to faster, easier tacking. Insist on Hansen . . . for the best in Tackers.

A. L. HANSEN MFG. CO.
5024 Ravenswood Ave.
Chicago 40, Illinois

▲ For more details circle NED-442 D9 on enclosed inquiry slip ▲



LIPE
Automatic Machine Loading
Feeds an 8-hour supply of any length from 4' to 20' of ferrous, non-ferrous, fibre, wood or plastic.

Continuous Automatic Feed
of bars, rods and tubing in various shapes

- Give faster, finer production with a more efficient use of manpower.
- May be applied to practically all shop machines.
- Sold and serviced by franchised distributors in principal industrial areas.

Stop Cutting Air and You Start Cutting Costs

Lipe-Rollway Corporation, Syracuse, N.Y.
Pioneers in Pneumatic Bar-Feeding

▲ For more details circle NED-443 D9 on enclosed inquiry slip ▲

NOW The Greatest Roof Coating Development in 60 Years!

Fibre Glass
SUPERCOTE ROOF COATING

- Doesn't Crack, Blister, or Dry Out
- Doesn't Absorb Oils, Keeps Roof "Live and Working"
- Resists Heat, Cold, Sun's Rays, Chemical Fumes

NEW! GARLAND FIBRE GLASS SUPERCOTE ROOF COATING restores cracked, dried out, leaky roofs. Millions of glass fibres interlock to form a "blanket of glass fibres" that keeps coating from cracking, blistering, drying out, or "pulling away" in hot weather. Glass fibres are inert—don't absorb vital roofing oils, keep them "live and working". And Garland's exclusive Microtex particles lay flat throughout the coating—increase adhesion to prevent peeling and cracking.

Easy to apply over old or new roofs of felt, composition, concrete, tin, or corrugated. No heating, just use roofing brush or squeegee.

Send free Fibre Glass Supercote booklet

The Garland Company
Dept. D-4, Cleveland 5, Ohio

Quality Maintenance Products Since 1895

Company _____
Name _____ Title _____
Address _____ City _____ State _____

MADE BY GARLAND QUALITY

▲ For more details circle NED-444 D9 on enclosed inquiry slip ▲

HANKISON MAG-PNEU-POWER Trap...

LOW-COST WAY to get HIGH EFFICIENCY in AIR and GAS LINES

- Frees lines of entrainments
- Assists dehydrating equipment
- Discharges condensates

Condensate is ejected by the pneumatic system pressure — quickly, efficiently, using same large ½" orifice for all pressures up to 200 psig. Blowdown petcock releases any dirt or pipe scale that collects in trap shell. Pilot valve functions on exclusive magnetic snap-action. Trap operation is simple—only two moving parts.

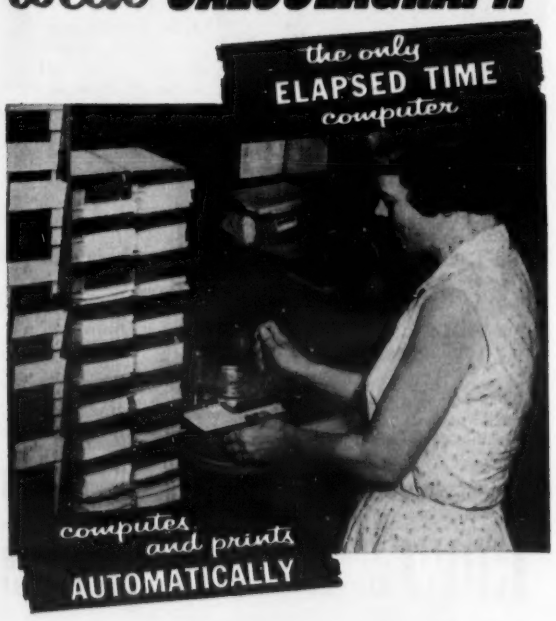
The Mag-Pneu-Power Trap is used to increase efficiency of existing lines, or as an integral part of new equipment. Case dia. 7"; ht. 8½". Pressure range: 10 to 200 psig.

WRITE FOR BULLETIN 501

HANKISON CORPORATION
College & Pike Canonsburg, Penna.
HC-21

For more details circle NED-445 D9 on enclosed inquiry slip

FREE clerks for other duties . . . . — obtain EXACT COST DATA automatically with CALCULAGRAPH



Now, automatically, you can have production records and exact cost data more accurately, more efficiently and more quickly when you include Calculagraphs in your time and cost system. You eliminate costly human errors because Calculagraph—and only Calculagraph—*computes* and *prints* ELAPSED TIME *free*.

Look at these BIG CALCULAGRAPH advantages—

- Will fit into your PRESENT SYSTEM *without* costly changes
- Uses *any type* of job card
- One machine can serve an *entire* department
- Is a self-contained unit—needs NO MASTER CLOCK
- Computes ELAPSED TIME to the *minute* or *tenth of an hour*

You'll find that Calculagraph can *save clerical time, reduce costs* and give you necessary cost information *faster and* with *100% accuracy*. Investigate Calculagraph NOW.

Write for complete information today

Agents in Principal Cities

CALCULAGRAPH Company
307 Sussex Street • Harrison, New Jersey

MANUFACTURERS OF ELAPSED TIME COMPUTERS FOR OVER 65 YEARS

For more details circle NED-446 D9 on enclosed inquiry slip

BATTERY CHARGER adjusts charge to match battery need

Lead acid batteries in lift trucks, personnel carriers, and other heavy duty electric utility vehicles can be charged by the automatic Power - MAC charger. Standard models are available for 6, 12, or 18-cell batteries. Charger automatically adjusts the high and low rate charge to match the battery's needs. When the battery is fully charged, the Power-MAC shuts itself off. Two reactance type transformers assure low temperature operation. Automatic overload protection and a 1000-cfm cooling fan are built in. Unit can be platform or wall mounted. Made by **Motor Appliance Corp.**, 5739 W. Park Ave., St. Louis 10, Mo.

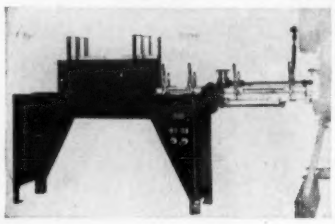
For more details circle NED-447 D9 on enclosed inquiry slip

CAST IRON FOOTSWITCH in 15 to 40-amp ratings

Cast iron housing with baked black wrinkle finish is featured by this footswitch available in 15 to 40-amp ratings. Switch is easily operated and is available with a guard. Stocked unit sells for $8. Made by **Vemaline Products Co.**, Box 222, Hawthorne, N. J.

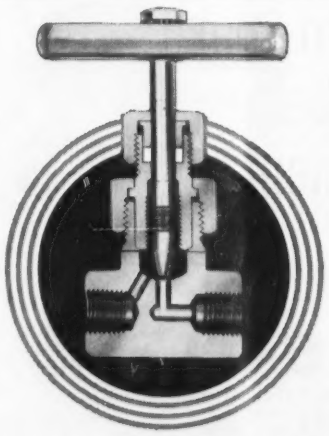
For more details circle NED-448 D9 on enclosed inquiry slip

STRIP STOCK FEEDERS feed heated stock to blanking press



Series 65 automatic strip stock feeders attach directly to bolster plate of any standard blanking press and automatically feed plastic, rubber, or composition strip stock from a magazine on top of the machine. Material is fed through a heating oven, into a roll feed, then into the blanking die. Mechanism is synchronized with and driven by an adjustable cam mounted on the end of the press crankshaft. Series handles strip stock from ½ to 6½ in. wide. A hinged oven cover provides accessibility, and a drawer-type belt assembly unit permits easy removal of belt. Feeders are readily loaded without stopping the blanking operation. Made by **Technical Design & Development Co.**, 465 Naugatuck Ave., Devon, Conn.

For more details circle NED-449 D9 on enclosed inquiry slip



SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns—screwed or union bonnets.

Your American Meter representative will give you full details.

AMERICAN® METER COMPANY
(INCORPORATED ESTABLISHED 1836)
General Offices: Philadelphia 16, Pa.
Sales Offices in Principal Cities

For more details circle NED-450 D9 on enclosed inquiry slip

SUB-FRACTIONAL HORSEPOWER MOTORS BUILT by BORG

For Your Precision Equipment Applications

Reliable motors for your precision equipment! Excellent performance records on industrial television, medical equipment, timing devices, many other instrument applications. 3600 to less than one R.P.M. Synchronous or induction. 2-Pole or 4-Pole. With or without gear trains. Write for complete data today.

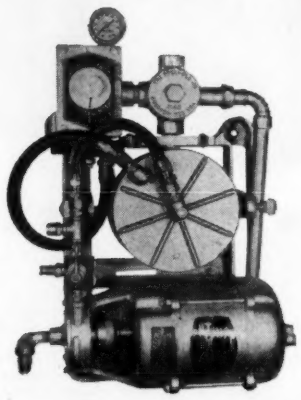
ASK FOR CATALOG BED-A 90

BORG EQUIPMENT DIVISION
Amphenol-Borg Electronics Corporation
JANESVILLE, WISCONSIN

BORG MOTORS MICROPOTS MICRODIALS

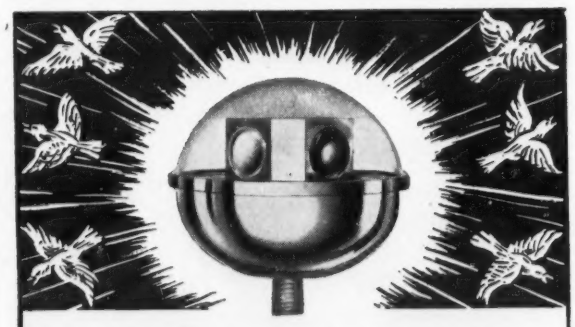
For more details circle NED-451 D9 on enclosed inquiry slip

CAN HOT SPRAY REALLY DELIVER THE GOODS?



Emphatically, YES! But only if you have a full range of temperature control as furnished by Spee-Flo Hot Spray units. This temperature control, instantly and externally adjustable throughout the entire usable range, guarantees the full advantages of the hot spray process — maximum solvent evaporation, uniform viscosity, better build, lower spraying pressures, 25-40% material savings. Don't judge full hot spray results by earlier "paint warmer" systems. Arrange for an on-the-job demonstration of Spee-Flo Hot Spray equipment. You be the judge! There's no obligation, of course. Write for free booklet "Why Hot Spray?" The Spee-Flo Co., 6614 Harrisburg, Houston 11, Texas.

For more details circle NED-452 D9 on enclosed inquiry slip



It's for the BIRDS!

STOP COSTLY WAREHOUSE DAMAGE . . .
Flash the MARK VIII Bird Eliminator

Now, bird damage so expensive to packaged goods, sheet steel, machinery, grain and other merchandise stocked inside warehouses can be eliminated! This light covers 360° like an airplane beacon with dual colored beams at the rate of 200 a minute. The roving rays continuously disturb the birds, interrupting their feeding and nesting to the extent that they do not remain. Lifetime vitreous enameled housing can't corrode. Operates on 115-120 V, is easily installed and has a 2000-hour bulb.

Get the Facts—Write TODAY!

TRIPPE MANUFACTURING CO.
133 N. Jefferson, Dept. F-3, Chicago 6, Ill.

For more details circle NED-453 D9 on enclosed inquiry slip

New, Lightweight, Powerful FLEXIBLE TOOL SHAFT Connects To Any Motor

Stow flexible tool shafts increase precision, eliminate operator fatigue on production grinding, polishing, sanding and other finishing operations in which the operator must hold the tool for long periods of time. Up to 3 HP can be transmitted through these new tool shafts, which consist of a core made of highest grade music wire rotating inside a rubber-covered casing. Each shaft furnished with ball bearing motor connection and high-speed ball bearing handpiece with removable wheel Arbor having ½-20" threads. An angle head can be used in place of the handpiece as shown in the photograph.

Four Sizes of these shafts are available . . . models 38, 40, 50 and 63, which come in 6-foot standard lengths. The largest shaft, model 63, will handle 3 HP at speeds up to 6900 RPM and has a maximum capacity for various accessories as follows: grinding wheel, 8" x 1"; buffing wheel, 8" x 1"; sanding disc, 9" diameter; sanding drum, 6" x 2½"; wire brush, 8" x 2"; steel drills, ½" diameter.

Write for Catalog 59

STOW MANUFACTURING CO.

26 Shear St. Binghamton, New York

▲ For more details circle **NED-454 D9** on enclosed inquiry slip ▲

TWO MODELS–NO WAITING

These Verson Power Press Brakes are furnished from stock

MODEL 1062 — **$2630*** — Is the full price of this Verson quality press brake, designed and built for top performance. 16 ga. x 78" capacity.

MODEL 16-48 — **$1600*** — will put this power press brake to work in your shop in a matter of days. Capacity is 16 ga. x 48" of mild steel.

Put famous Verson all steel construction and proved-in-service Verson design to work for you. Write for complete specifications or . . . place your order NOW!

*Prices, F.O.B. Chicago, less dies; subject to change without notice.

165

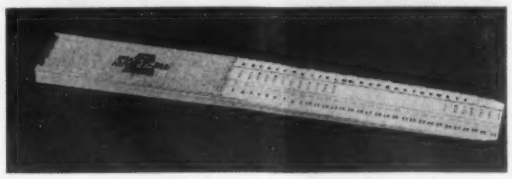
Verson **VERSON ALLSTEEL PRESS CO.**

9329 S. Kenwood Ave., Chicago 19, Ill. 8300 S. Central Expressway, Dallas, Texas

▲ For more details circle **NED-455 D9** on enclosed inqu.ry slip ▲

OFFICE SORTING AID files by alphabet, numbers, days

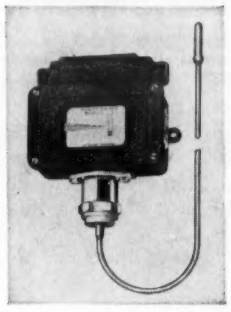
Checks, sales slips, time cards, letters, and ledger sheets can be separated and classified alphabetically, numerically, or by days of the week and month in the



Sort-All. It holds papers of any kind up to 10 in. wide. Price is $4.50. Made by **Amberg File & Index Co.**, Kankakee, Ill.

▲ For more details circle **NED-457 D9** on enclosed inquiry slip ▲

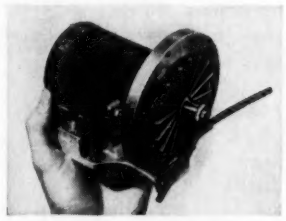
SAFETY SWITCH protects against pilot flame failure



In case of a pilot flame failure in any gas-fired industrial heating operation, Model SBS safety switch shuts down both pilot and main fuel flow in 30 to 45 sec by actuating a solenoid valve. Under normal operation, the mercury-filled bulb, installed close to pilot flame, is heated to a bright red. If pilot flame goes out, the mercury vapor in the bulb condenses, interrupting the circuit to the solenoid valve or other device. Indicating needle drops to show flame is out. Bulb operating temperature is between 1200 and 1400° F. Switch can be mounted in any position. Made by **Partlow Corp.**, 517 Campion Rd., New Hartford, N. Y.

▲ For more details circle **NED-458 D9** on enclosed inquiry slip ▲

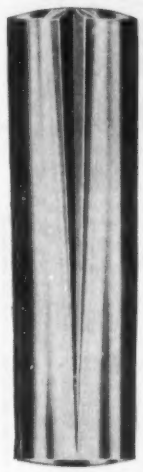
SMALL-FLOW PUMP handles liquids, gases, slurries



Small flows of liquids, gases, and slurries are handled by this Kinetic Clamp pump for laboratory use. Material is moved through flexible tubing by successive clamping action of radial arms operating on a tubing coil. Using ¼-in. OD tubing, maximum delivery is 110 ml per minute at 192 rpm of rotor. Pump is available with a single-phase 1550-rpm motor, or can be furnished with a variable speed drive to give regulated deliveries from a fraction of 1 ml per minute to maximum tube capacity. The self-priming pump can be used under aseptic conditions and for micrometering. It is also available without the motor. Made by **Sigmamotor, Inc.**, 33 N. Main St., Middleport, N. Y.

▲ For more details circle **NED-459 D9** on enclosed inquiry slip ▲

need DRIV-LOK grooved pins in SPECIAL MATERIALS?



- aluminum
- alloy steel-heat treated
- brass
- stainless-303 and 416
- bronze

DRIV-LOK Pins — the positive locking, solid steel body grooved fasteners — are also available in a variety of special materials to meet particular requirements of strength, corrosion resistance, electrical qualities, or combinations of these properties. Like all DRIV-LOK Pins, they are carefully made to exacting standards, are easy to install and will reduce your fastening and assembly costs.

Write us, describing your fastening requirements. Recommendations made and catalog sent without obligation.

DRIV-LOK SALES CORPORATION

717 Park Avenue • Sycamore, Illinois

▲ For more details circle **NED-460 D9** on enclosed inquiry slip ▲

TORNADO. Makes a Machine for EVERY CLEANING NEED

No matter what your cleaning problems may be, Tornado makes machines that solve them fast, easily and economically.

For vacuum cleaning walls, ceilings, fixtures, radiators, floors (including wet pick-up) furnaces and boilers, or for scrubbing and polishing floors or shampooing carpets—Tornado is the right machine.

Look for this name when buying cleaning equipment, it is your assurance of superb performance and ruggedness. There's a Tornado distributor near you.

A. Series 400 Heavy Duty Vacuum Cleaner with removable motor unit.

B. Pac-Vac the Portable Vacuum Cleaner or Air Sweeper.

C. Jumbo, the Conversion Unit that turns any 55-gal. drum into a Vacuum Cleaner.

D. Series 300 Heavy Duty, Quiet Type Vacuum Cleaner.

E. Series 140—household size with commercial cleaner ruggedness.

F. Heavy duty floor scrubbing and polishing machine.

G. Series 130, 13" "light heavyweight" Floor Machine.

For a FREE CLEANING SURVEY and complete literature on Tornado machines, just mail the coupon below.

BREUER ELECTRIC MFG. CO.

5116 NORTH RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

We would like to know more about Tornado Cleaning Equipment.

☐ Send Complete Literature. (Bulletin #901)

☐ Have representative call for my free cleaning survey.

Individual_____

Company_____

Street_____

City_____ Zone_____ State_____

▲ For more details circle **NED-461 D9** on enclosed inquiry slip ▲

TRUCO® does it again! BIG SAVINGS in tile installation

JOB: Cutting 3500 holes 1", 1½", 2" and 2½" dia. through structural glazed and facing tile to admit plumbing pipes in walls of kitchens and washrooms in Ford Motor Company's Staff and Product Engineering Buildings, Dearborn, Michigan.

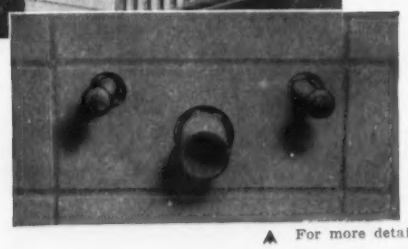
CONTRACTOR: Smith Fireproofing Company, Detroit.

TOOLS: Truco Hand Swivel Drill Motor, a heavy duty unit operating at 1000 rpm with integral Truco Water Swivel and Truco Drill Stand mounted on a wheeled platform, readily movable to each work site.

OPERATION: The previous method required a sawing operation in a separate room to which tile was carried at considerable cost in man-hours. Much chippage, scrap, waste and dirt resulted. Pieces of tile had to be patched in around pipes, taking more time and leaving an unsightly job. With Truco equipment right at the work site, tile was placed on a board, holes drilled in less than three minutes per hole, and the tile laid up in the wall. Holes were accurate, fitted neatly, and there was no unsightly patching, no chippage, practically no scrap or litter. Truco equipment delivered a perfect job at a fraction of previous cost.

Write or phone for nearest distributor's name.

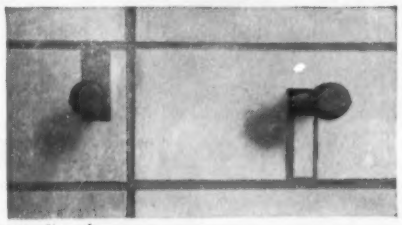
TRUCO MASONRY DRILLING DIVISION
WHEEL TRUEING TOOL COMPANY
54-3200 W. Davison Ave. • Detroit 38, Michigan



Top, left: Drilling accurate holes for plumbing in glazed structural tile averages less than 3 minutes per hole with Truco diamond drilling equipment.

Bottom, left: Finished holes are neat, clean, accurate, and need no patching.

Bottom, right: Old method involved sawing slots which required patching, and left unsightly wall scars.



▲ For more details circle **NED-456 D9** on enclosed inquiry slip ▲

RUST CUTTER

Now–Whiting RUST CUTTER in aerosol form for tough-to-reach spots!

Frozen joints . . . rust-bonded connections . . . corroded couplings — *no matter how inaccessible* — will break loose after a shot of Whiting Rust Cutter. Now available in a new 16-ounce Jet-Spray can that makes it possible to hit a three-inch "target" from three feet away. Special additives give Rust Cutter excellent "wetting-out" properties . . . give Rust Cutter pinpoint spray a penetrating action to reach rusted threads wherever located.

Rust Cutter is ideal for use in any industry for any maintenance job where grease or rust loosening is a problem. Costs only $1.65 for long-lasting 16 oz. can. For more information, call your jobber or write Claronex Products, Inc., 239 Java Street, Brooklyn 22, N. Y.

DISTRIBUTORS—A NUMBER OF KEY TERRITORIES STILL AVAILABLE. WRITE OR WIRE FOR COMPLETE DETAILS.

ALSO–

Whiting Rust Cutter is also available in the familiar liquid form, comes in an economical, easily refillable pour-spout pint can.

▲ For more details circle NED-462 D9 on enclosed inquiry slip ▲

NOW! SAFER STRONGER

300-POUND BRONZE GATE VALVES

WITH NEW CYLINDRICAL BODY SHAPE

Here's a bronze gate valve with a new body shape giving increased strength against both internal pressures and piping strains . . . with huskier, wider hex ends that give a firmer wrench grip. Improvements inside these valves include high wear-resisting Exelloy steel (12% chromium), expanded-type body rings and easy-to-replace hard bronze disc that takes normal seating wear. Priced no higher than bronze valves with integral seats. Sizes ¼ to 3 in.; rising and non-rising stem types.

Get full facts on these more durable, maintenance-saving valves. Ask for Circular AD-2340.

CRANE VALVES & FITTINGS

PIPE • PLUMBING • HEATING • AIR CONDITIONING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

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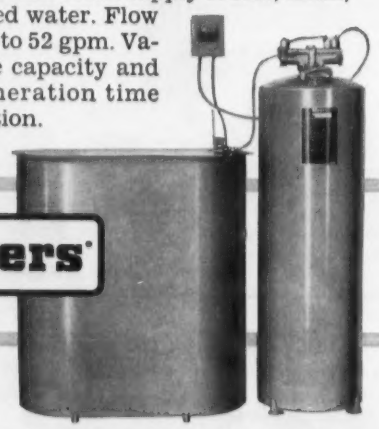
Fully Automatic Myers' water softeners

to fulfill your in-plant requirements for a continuous supply of soft, clean, filtered water. Flow rates to 52 gpm. Variable capacity and regeneration time selection.



Myers'

Available Immediately For Prompt Shipment.
For detailed specifications, write:

The F. E. Myers & Bro. Co.
8902 ORANGE STREET, ASHLAND, OHIO

▲ For more details circle NED-464 D9 on enclosed inquiry slip ▲

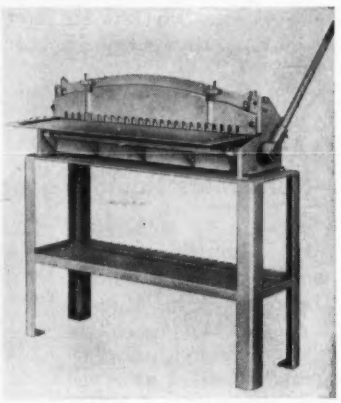
ULTRASONIC CLEANERS twin-wall tanks range from 1 to 32-gal capacities

Integral heater, dual thermostatic controls, and twin-wall construction are among improvements made in line of Sonogen ultrasonic cleaning tank/transducers. The TH Series comprises eight standard sizes ranging from 1 to 32-gal tank capacities and 65 to 1000-rf-watt transducer inputs. Heating elements are attached to walls of the 16-gage stainless steel tank, and ceramic transducers are mounted against the bottom. All elements are enclosed by an outer jacket.

One thermostat maintains desired liquid temperature, the other acts as a cutout to disconnect heater when tank is empty. Pulsed electrical power, at 38,000 cps, is fed from generator to transducer where it is converted to mechanical vibrations at this same frequency and transmitted to liquid in the tank. Made by **Branson Ultrasonic Corp.**, 40 Brown House Rd., Stamford, Conn.

▲ For more details circle NED-465 D9 on enclosed inquiry slip ▲

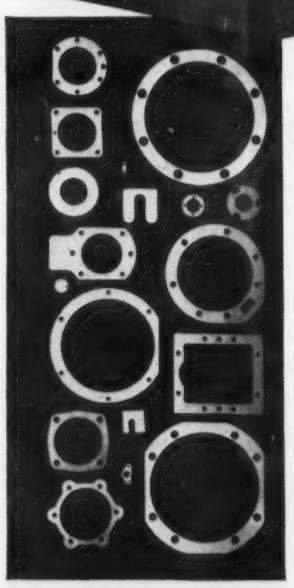
HAND-OPERATED SHEAR 36-in. model has inclined ram



By setting shear blades at an angle, only the blade edge of the No. 36 hand-operated shear is in contact with the material being cut. This inclined ram design minimizes force or pressure required, makes possible cutting of up to 16-gage mild steel across its 36-in. width, and also counteracts thrust. A micrometer back gage moves on 24-in. long lead screws, and dials are graduated in 0.001 in. Standard equipment includes a material hold-down bar that engages work before shearing begins, work table with 50 tapped holes for mounting side squaring and protractor gages, one set of four alloy tool steel edge blades, and Quik-Set micrometer material gages. Cost is $575. Made by **O'Neil-Irwin Mfg. Co.**, 582 Eighth Ave., Lake City, Minn.

▲ For more details circle NED-466 D9 on enclosed inquiry slip ▲

LOOKING FOR SAVINGS on GASKETS, SHIMS, WASHERS?



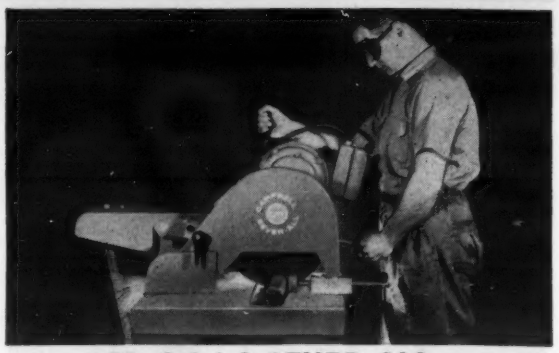
Over more than 50 years, Chicago-Wilcox has accumulated a wide variety of dies which enable us to supply many of your gasket, shim and washer needs **without a die charge.** Whether you need just a few items or large quantities, this can save you money and speed delivery. Available in metallic, non-metallic and plastics to meet your production requirements.

Write for Catalog and prices.

Ask about WIL-PAK PLASTIC SHIM STOCK that identifies thickness both by color and gauge number. Write for Bulletin No. 570.

CHICAGO-WILCOX MFG. CO.
7713 South Avalon Avenue
Chicago 19, Illinois

▲ For more details circle NED-467 D9 on enclosed inquiry slip ▲



NEW Model 1-A SEVER-ALL CUTS AT 3 to 6 SECONDS PER SQ.IN.–ECONOMICALLY

- New abrasive cutting machine priced at less than $500
- Wheel oscillation provides capacity up to 2" square solids, 3½" O.D. pipe and tubing, 3" angle iron, 4" channels
- Gives clean, smooth cuts on large or small sections
- Cuts cold rolled, stainless, and alloyed steel; cast iron; non-ferrous metals
- Little or no set-up time required
- Just two wheels for all SEVER-ALL cutting jobs
- Available from distributors

Write FOR BULLETIN DH-106

ALLISON-CAMPBELL DIVISION AMERICAN CHAIN & CABLE ACCO

930-S Connecticut Avenue, Bridgeport 2, Conn.

▲ For more details circle NED-468 D9 on enclosed inquiry slip ▲

ANOTHER *PANNIER* MASTER MARKER!

PANNIER'S INSPECTORS' HAMMERS WEAR LONGER

Many styles and sizes for metal marking. Letters, numbers or symbols on either or both ends; interchangeable type heads available.

Write for data.

MONEY-SAVING FEATURES:

- Sturdy, balanced construction
- Long-lasting tool steel head
- A style for every (any) need
- Sharp, clean marking

BIRTHMARKED MATERIALS

MARKING DEVICES MASTER PANNIER MARKERS
THE PANNIER CORPORATION

301 PANNIER BUILDING PITTSBURGH 12, PA.
Offices: Los Angeles • Cleveland • Chicago • Philadelphia • Birmingham

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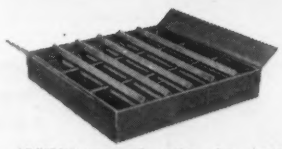
ONLY ERIEZ

has a *complete line* of permanent non-electric

GRATE MAGNETS

designed to specifically

STOP TRAMP IRON AND IRON FINES



Grate Magnets designed for *your exact needs!* Widest selection of models, sizes, construction; widest price range. Strongest, most effective magnetic fields—protected by US and foreign patents. Choose either strong, proved-in-use ALNICO magnetic elements or new, low-cost CERAMIC material.

ALNICO-powered units—for tramp iron or fine iron separation. Proved stronger than all comparable units. Magnetic power guaranteed forever.

CERAMIC-powered units—proved best for efficient, economical removal of fine iron in free-flowing materials.

Non-electric, self-contained, no wires or attachments. Designed to prevent choking caused by bridging of iron and material accumulation. First cost is only cost; no operating or maintenance expenses. Rugged constructed. Easily, quickly installed. Many styles.

For all the facts write today to
ERIEZ Mfg. Co., 80-R Magnet Dr., Erie, Pa.

ERIEZ

▲ For more details circle NED-470 D9 on enclosed inquiry slip ▲

cut production time and costs with **INDUSTRIAL RETAINING RINGS**

Save material, eliminate costly machining and tooling, speed assembly with precision-made INDUSTRIAL Retaining Rings. They can be re-used over and over again because of their lasting resiliency and sustained circularity.

Internal, external and open types are available for immediate delivery in a wide range of sizes and finishes. Open-type rings are also available stacked for speedier assembly.

Write today for free ring samples and catalog.

IRR *Originators of modern retaining ring dispensing*

INDUSTRIAL RETAINING RING COMPANY
Dept. N4, 57 Cordier Street • Irvington 11, New Jersey

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DUO-FAST EASY TRIP AIR TACKER

NEW! GREATER TACKING SPEED ...WITH 79% LESS EFFORT!

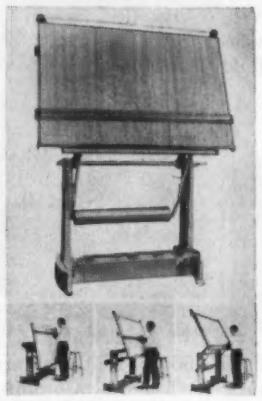
Effortless, feather-touch trigger action of the new EASY TRIP line of DUO-FAST Air Tackers takes 79% less muscle. This, plus faster piston return and the new fist fitting "Comfort Grip," helps beginners or skilled hands develop new tacking speed.

Free Service Guarantee. Like all DUO-FAST tackers, EASY TRIP models are backed by our money-saving FREE SERVICE GUARANTEE. Get the facts today. Send for free EASY TRIP Bulletin FAT-25.

DUO-FAST FASTENER CORPORATION
3758-60 River Rd., Franklin Park, Ill.
9192

▲ For more details circle NED-472 D9 on enclosed inquiry slip ▲

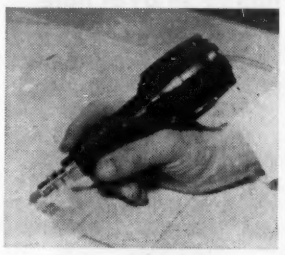
DRAFTING TABLE locks into any desired position



Balanced in any position by a counterweight mechanism operated by foot pedals, this Unic drafting table "floats" and locks securely in any desired position. Its large range of movement permits the draftsman or engineer to work comfortably on any part of the board from a standing or sitting position. Available board sizes are 40 x 60, 34 x 47, 26 x 36, and 27½ x 40 in. Made by **Stacor Equipment Co.**, 285 Emmet St., Newark 5, N. J.

▲ For more details circle NED-474 D9 on enclosed inquiry slip ▲

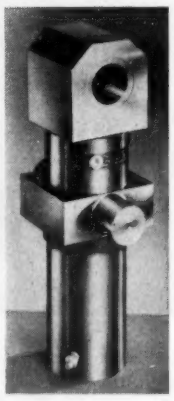
ELECTRIC ERASER operates at 3100 rpm



Tapered, pencil-like shank of this Model 3831 electric eraser allows it to be manipulated easily in close quarters. Slight index-finger pressure on switch sets the eraser in operation at 3100 rpm. The 7-in. eraser inserts are gripped securely at the end by a chuck and chuck ring. Five grades of erasers are offered. A pencil pointer attachment that fits into the hollow shaft on the back end is also available. Mechanical improvements include permanently lubricated bearings mounted in shock-absorbing material. Made by **Charles Bruning Co.**, 1800 W. Central Rd., Mt. Prospect, Ill.

▲ For more details circle NED-475 D9 on enclosed inquiry slip ▲

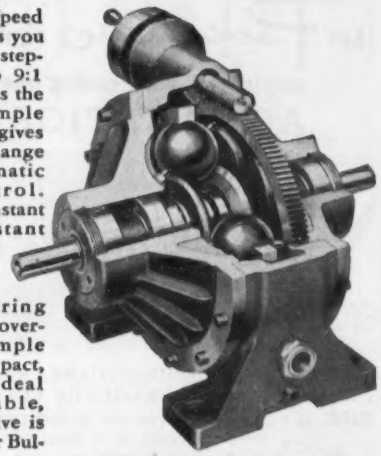
LIQUID SPRINGS absorb 500-ton shock loads



Liquid compressibility is utilized by Series 900 Liquid Spring Shoks to produce an energy storage or absorption capacity in both directions of up to 1,000,000-lb force. Equipped with any type of standard end mounting, springs have built-in Zerk fittings for replenishing liquid with standard grease gun. Dampening force is adjustable, and time delay return can be built-in. They are offered in 2, 3, 4, and 5-in. standard diameters with up to 2-in. stroke. Other diameters and strokes can be specified. Made by **Taylor Devices, Inc.**, 188 Main St., North Tonawanda, N. Y.

▲ For more details circle NED-476 D9 on enclosed inquiry slip ▲

Get infinitely variable speeds with smooth, instant change



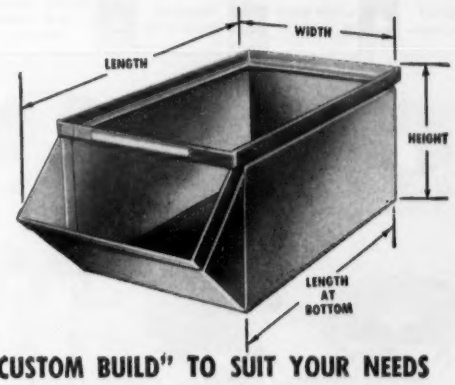
CLEVELAND Speed Variator gives you infinitely variable, stepless speeds up to 9:1 (from ⅓ to 3 times the input speed). Simple speed regulation gives instant, smooth change by manual, automatic or remote control. Available with constant torque or constant horsepower rating. No belts or complicated linkage. Ample bearing support to carry overhung pulleys. Simple construction, compact, quiet running. Ideal where dependable, variable speed drive is required. Write for Bulletin K-200.

NOW available in 18 sizes, ranging from one-half to 16 horsepower at 1750 input RPM.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, O.
Sales Representatives in all major industrial markets

▲ For more details circle NED-477 D9 on enclosed inquiry slip ▲

MODERNIZE YOUR STOCKROOM AS YOU REBUILD YOUR INVENTORY!



"CUSTOM BUILD" TO SUIT YOUR NEEDS WITH MULTI-PURPOSE STACKBINS

In processing . . .

portable Stackbins carry common parts and supplies to points of usage without time-wasting transferal to other containers.

In storage . . .

Stackbins stack securely to any desired height, with or without Stackracks. Floor space requirements reduced—stock capacity increased.

In assembly . . .

Stackbin flexibility permits adapting assembly station to production requirements.

Available in sizes to suit your requirements

Bin No.	Width	Length	Bottom Length	Height	Weight (lbs.)
00	3½"	6"	4"	3¾"	1¼
0	4½"	8"	6"	4½"	1¾
1	5½"	12"	10"	4½"	3
2	7½"	15½"	12¼"	6"	5½
3	9"	18¾"	14¾"	7½"	9
4	12"	20½"	15¾"	9½"	14
5	15"	24"	18¼"	11"	20½
6	18"	30"	24"	12"	29

COMPARE THE PRODUCT COMPARE THE PRICE

STACKBINS ARE MADE of heavy gauge steel, all-welded construction with positive stacking rim. Full flow hopper front and smooth interior make contents always visible—always accessible.

All Stackbin products are sold direct. Write for more information today!

STACKBIN CORP. 1081 Main St., Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Perth

STACKBIN SYSTEM "Stacked and Still Accessible"

▲ For more details circle NED-478 D9 on enclosed inquiry slip ▲

Announcing **NEW UNIPUNCH PRESS**
10 Ton Hydraulic LOW-PRICED

This ALL NEW 10 TON UNIPUNCH PRESS with UNIPUNCH TOOLING punches holes in sheets, angles, channels and extrusions plus notching operations . . . more economically and more efficiently.
UNIVERSAL USE—may also be used for small stampings.

Only UNIPUNCH PRESS has ALL these features:

● Simplicity of design (air-hydraulic) ● Minimum of moving parts ● Operates at 10 tons from 80 lb. air pressure ● 1⅞" ram adjustment ● ½" adjustable power stroke ● Foot operated control ● No double stroking ● 13½" throat depth without gauging ● Gauging from center of ram to the left 24" and front to back 12" (punches to center of 24" sheet) ● Gauging equipped with 7 adjustable stops—additional stops available and attached in seconds ● Optional gauging over 24" available.

STANDARD PACKAGE OF UNIPUNCH TOOLING
4 standard UNIPUNCH Hole Punching Units including 43 graduated punches and 86 die buttons.
1 5" x 5" UNIPUNCH 90° Notching Unit.
1 UNIPUNCH Gauge System 12" x 24".
1 combination stand, cabinet with drawer and shelf for convenient storage of UNIPUNCH TOOLING.
1 adjustable work light.

Showing *new* UNIPUNCH PRESS equipped with UNIPUNCH Hole Punching Unit and UNIPUNCH Gauging.

UNIPUNCH PRESS and UNIPUNCH TOOLING are an unbeatable combination for *cutting costs.*

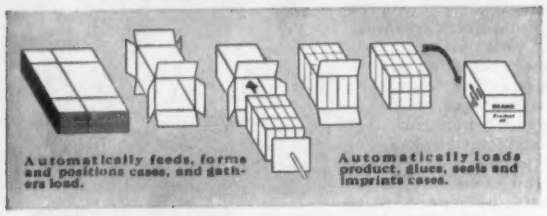
UNIPUNCH®

Write for **CATALOG and PRICES**
PUNCH PRODUCTS Corporation
3808 HIGHLAND AVENUE
NIAGARA FALLS, N. Y.

▲ For more details circle NED-473 D9 on enclosed inquiry slip ▲

Take the HANDS out of PRODUCT HANDLING

Let Packomatic* equipment do any or all your casing operations AUTOMATICALLY



FOR CASING ROUND, SQUARE, RECTANGULAR OR FREE-FORM PACKAGES OF VIRTUALLY ANY SIZE. If you employ even one person per shift to hand-form cases, or to hand-pack, hand-seal, or hand-imprint them, then it can pay you to install Packomatic equipment. Write, phone or wire for facts on how to reduce your casing costs.

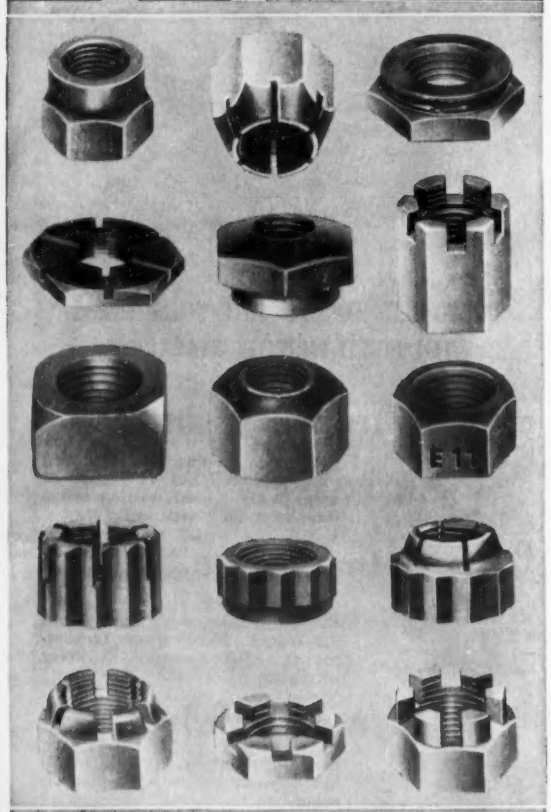
J. L. FERGUSON COMPANY
Box 1226, Phone 6-6275, Joliet 12, Illinois

▲ For more details circle NED-479 D9 on enclosed inquiry slip ▲

SPECIAL NUTS

to specs. 7/16"—4¼" cross flats

special machines + large stock of material × years of experience = speedy deliveries high quality low prices



Here are a few samples made to customers specifications . . Our batteries of special high-speed multi-spindle, automatic machines make possible fast and accurate production of hexagon nuts of non-standard height and special shape from carbon or alloy steel, Naval bronze or other non-ferrous metals; also AN 310 through AN 335 as per latest Airforce specifications. Very often the special nut you require may be similar to one we are already making and a simple modification would result in a price advantage and quicker deliveries to you . . Send us your blueprint and particulars —let us quote on your requirements . . We also have a catalog that contains complete specifications, engineering data and prices regarding our standard nuts.

*12 Pointer Standards, sizes: ¼" to ¾"—brochure on request

NATIONAL MACHINE PRODUCTS

*Manufacturer of Standard and Special *12 Pointer and Hexagon Nuts . . . "Huglock" and "Marsden" locknuts.*

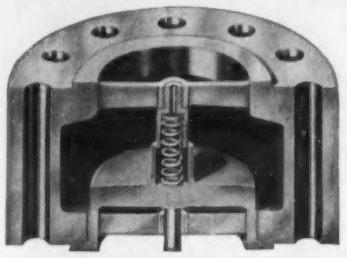
44225 Utica Rd., UTICA, Michigan

SPS/COMPANY

▲ For more details circle NED-480 D9 on enclosed inquiry slip ▲

SILENT CHECK VALVES
close automatically when flow stops

When installed in any position, steel-bodied check valves close automatically and silently as soon as the fluid flow ceases. The stainless steel valve disc is center-guided above and below for balanced lift, minimum wear, and rapid seating. The spring-actuated valves have a flow area in excess of pipe diameter. Two types in diameters from 2 to 12 in. and pressure ratings from 150 to 2500 psi are suited for all temperature ranges. Made by **Combination Pump Valve Co.**, Dept. 208, 851 Preston St., Philadelphia 4, Pa.



▲ For more details circle NED-481 D9 on enclosed inquiry slip ▲

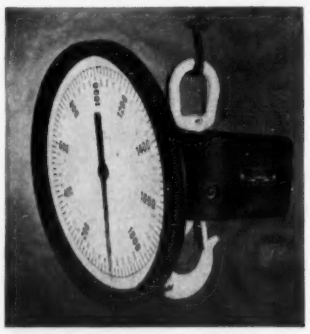
ALUMINUM LADDER
rung is double crimped in oval hole

Increased safety is embodied in the Oval-Lok rung joint of this Louisville Colonel all-aluminum ladder, available in straight and extension types. Rung is crimped before insertion in an oval hole in the side rail and double crimped afterwards. The double crimp prevents rung from pulling out of the rail and also reinforces the rung against collapse. Made by **Louisville Ladder Co.**, 1101 W. Oak St., Louisville 10, Ky.

▲ For more details circle NED-482 D9 on enclosed inquiry slip ▲

CRANE SCALE
in 1000 to 4000-lb capacities

Capacities from 1000 to 4000 lb comprise the SU-5 Series of Sensater hydraulic crane scales, redesigned for low headroom needs and light weight. The 60-lb unit is 13¼ in. high, has a safety factor of five times the rated capacity, a 360-degree dial, and 25 per cent tare adjustment. Operation is unaffected by extreme dust, grit, moisture, corrosion, or impact conditions. Made by **Martin-Decker Corp.**, 3431 Cherry Ave., Long Beach 7, Calif.



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Sutton NEW IMPROVED MOTOR DRIVEN PRESSURE BLOWER

ONE-PIECE HOUSING
SELF-CLEANING WHEEL

For EXHAUSTING Dust . . Smoke Fumes . . Vapor
COOLING
DRYING
CONVEYING Cotton . . Wool Shavings
FORGE BLASTING

3 SIZES ¼, ½, 1 H. P.

STRONG . . LIGHT CAST ALUMINUM

Even, non-pulsating air flow . . 100-800 cu. ft. per min. at ½" to 6" static pressure. Straight wall construction cuts windage . . ups efficiency. 3450 r.p.m. direct connected 60-cycle motor . . open or totally enclosed. Set discharge in 8 different positions.

WRITE FOR DESCRIPTIVE LITERATURE

Sutton Manufacturing Corp.
112 W. WILSON AVENUE
NORFOLK, VIRGINIA

▲ For more details circle NED-484 D9 on enclosed inquiry slip ▲

MRC PILLOW BLOCKS and FLANGE UNITS with Labri-Seal® BALL BEARINGS

NEW MRC Labri Seals® combine the advantages of
→ a rotating flinger
→ labyrinth seal
→ positive contact synthetic rubber seal

SELF ALIGNING
POSITIVELY LOCKING
PERMANENTLY LUBRICATED

Write for FORM 1550 8 pages 8½"x11"

MARLIN-ROCKWELL CORPORATION Jamestown, N.Y.

MRC BALL AND ROLLER bearings

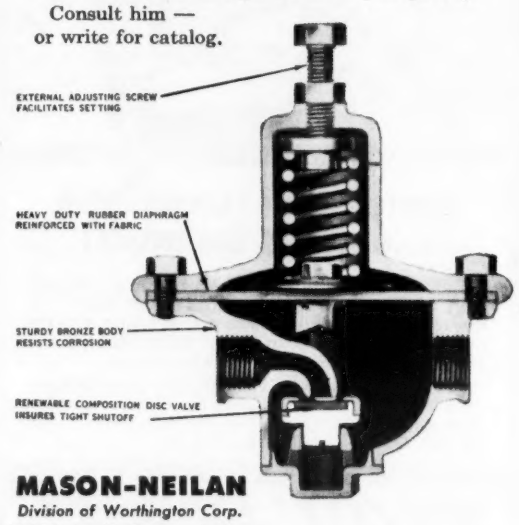
▲ For more details circle NED-485 D9 on enclosed inquiry slip ▲

Maintain Uniform Water Pressure with . . . M-N No. 227 Valves

Accurate control, long life and trouble-free operation in industrial or domestic water service.

Your Mason-Neilan Distributor carries these valves in stock or can get them for you quickly.

Consult him — or write for catalog.



MASON-NEILAN
Division of Worthington Corp.
69 Nahatan St., Norwood, Mass.

MASONEILAN MN7-44

▲ For more details circle NED-486 D9 on enclosed inquiry slip ▲

CRT* High Tensile ALLOY STEEL STUDS

ALLOY, STAINLESS AND NON-FERROUS PRODUCTS FOR REFINERIES, CHEMICAL PLANTS, UTILITIES AND GENERAL INDUSTRIES

"Lok-Thred" Licensee

SINTZ *CRT threaded steel and non ferrous rod *COLD ROLLED THREADED—NEVER COLD *QUALITY *SERVICE *PRICE Established 1912

CLAUDE SINTZ INC.
1928-40 STANLEY AVENUE
DETROIT 8, MICHIGAN

▲ For more details circle NED-487 D9 on enclosed inquiry slip ▲

Multistamp Stenciling System STOPS Freight Addressing ERRORS at JOHNSON & JOHNSON

Cartons addressed accurately, identically as dollies roll to shipping dock. Average 3 1/3 sec. per carton . . one man—one hand—operation.

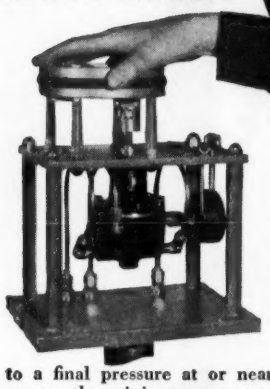
Shipping address errors are virtually eliminated when printed directly on cartons by the Multistamp Stencil Duplicator. Print becomes identical smear-proof permanent part of every carton in shipment. Quantity users now save big money on VOLUME-PAK stencils . . either plain or FORM-CUT. One-day service on repeat FORM-CUT stencil orders . . less than 10 days on new orders.

MULTISTAMP STENCIL DUPLICATOR®
THE MULTISTAMP CO. Norfolk, Va.

Write Today for your Free copy of the illustrated new how-to (and why) book about the Multistamp Marking Methods.

▲ For more details circle NED-488 D9 on enclosed inquiry slip ▲

ARCCO-Anubis CONTINUOUS GAS SAMPLER



MEETING THE DEMAND for more accurate gas sampling, this newly perfected ARCCO-Anubis instrument replaces inadequate, inaccurate spot sampling methods. The Model 100-7 will over a period of seven days accumulate at a constant rate a sample of gas to a final pressure at or near 100 psig from a sample source, the minimum pressure of which is not less than 125 psig.

The ARCCO-Anubis design is based on the principle that maintenance of a constant rate of increase in gas pressure within a closed container, from zero to any selected maximum pressure, will result in a continuous rate of flow of gas into the closed container.

This is accomplished by means of a specially designed regulation system equipped with a precision drive mechanism so as to obtain a constant predetermined rate of increase in the outlet pressure into the sample container.

Send for Bulletin No. 112

AVAILABLE FOR EARLY DELIVERY

AMERICAN RECORDING CHART CO.
7142 E. Condor St., Los Angeles 22, Calif.

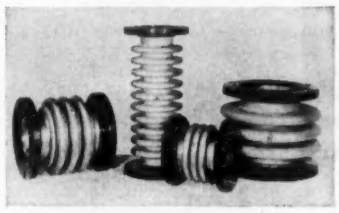
▲ For more details circle NED-489 D9 on enclosed inquiry slip ▲

SAFETY SHOES made to resist water penetration

One-piece soles and heels of Hy-Test safety shoes are molded directly to the water-resistant Sylflex leather upper portions by hydraulic pressure and heat. Seams and needle holes are sealed with a self vulcanizing adhesive. In tests, shoes were flexed up to 25,000 times with no sign of water penetration. Soles and heels are of an antislip grit composition. Line comprises an 8-in. boot, a 6-in. shoe, and a plain toe oxford, each with a flange steel box toe. Made by **International Shoe Co.**, Hy-Test Safety Div., 1509 Washington Ave., St. Louis 66, Mo.

▲ For more details circle NED-491 D9 on enclosed inquiry slip ▲

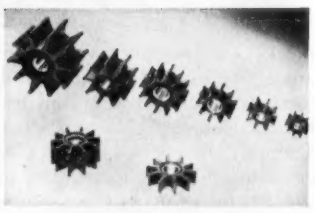
BELLOWS EXPANSION JOINTS in 3 to 30-in. nominal pipe sizes



Initial production of these stainless steel Tube-Turn bellows expansion joints provides 3 to 30-in. nominal pipe sizes for applications up to 275 psi and 750° F. Joints are especially applicable where restricted space makes it impossible to install expansion loops to absorb pipe expansion and contraction. They can also be used to decrease vibration or misalignment stresses in short pipes connecting process equipment. Made by **Chemetron Corp.**, Tube Turns Div., 224 E. Broadway, Louisville 1, Ky.

▲ For more details circle NED-492 D9 on enclosed inquiry slip ▲

RUBBER IMPELLERS for self-priming pumps



Long-service life is reported for these flexible rubber impellers for self-priming pumps used in general industrial, chemical, plumbing, air conditioning, marine, and other applications. They have high tensile strength and resistance to oxidation, compression set, abrasion, and tear. Neoprene and Hycar compounds can be used for handling various liquids from 40 to 175° F. Impellers are available in standard or special sizes for pumping capacities from ½ to 120 gpm, operating speeds from 300 to 6000 rpm, and designed to the pump manufacturer's specifications. Made by **Pacific Moulded Products Co.**, Special Products Div., 905 E. 59th St., Los Angeles 1, Calif.

▲ For more details circle NED-493 D9 on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH MERRILL MATERIAL HANDLING DEVICES

For Interesting Information write

MERRILL BROTHERS
56-13 Arnold Ave., Maspeth, N. Y.

3-R-5

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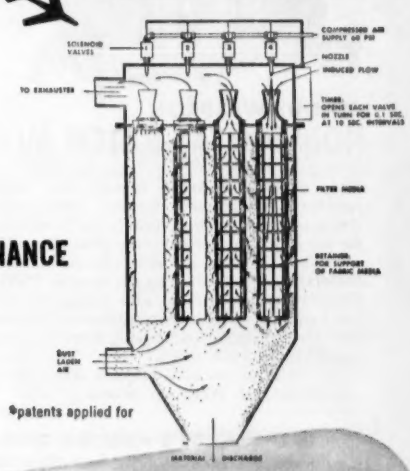
JET-ACTION does the job!— CONTINUOUS, AUTOMATIC SELF-CLEANING!



NO MAINTENANCE DOWN TIME!

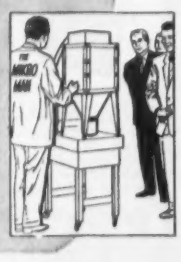
*patents applied for

THE MIKRO-PULSAIRE* COLLECTOR

Successful processing operations demand around-the-clock dust collection and full-time automatic cleaning . . . with no interruptions for maintenance. Jet-action MIKRO-PULSAIRE answers these requirements . . . does a better job at less cost. There are no internal moving parts to cause tie-ups . . . extra-long filter media life is assured . . . and MIKRO-PULSAIRE shows a performance-proven filtering efficiency of 99.9% plus! Bulletin 52A gives full facts and figures. It's yours for the asking.

ASK THE MIKRO-MAN TO CALL

We'll arrange a working demonstration of the MIKRO-PULSAIRE Model Unit right in your own plant or office . . . working on your own materials. Write for details.



For additional product information and location of the MIKRO-MAN nearest you, see Chemical Engineering Catalog for 1959, pgs. 1559 to 1566.

Mikro-PRODUCTS
PULVERIZING MACHINERY DIVISION
METALS DISINTEGRATING COMPANY, INC.
28 Chatham Road • Summit, New Jersey

GENUINE MIKRO-D REPLACEMENT PARTS AVAILABLE FROM LARGE STOCK WITHIN 48 HOURS.

MANUFACTURERS OF PULVERIZING, AIR CONVEYING AND DUST COLLECTION EQUIPMENT

▲ For more details circle NED-495 D9 on enclosed inquiry slip ▲

NEW DESIGN FREEDOM—Today this fabric is being tested by the military in space craft only. Soon, however, many non-defense applications will be using G-E Quartz Thread to solve heat problems and act as a thermal barrier. Give you any ideas? Maybe it can help solve a design problem for you, too!

STEEL — GLASS-REINFORCED PLASTIC — QUARTZ-REINFORCED PLASTIC

FLAME TEST—Here are samplings of materials burned with an oxyhydrogen torch at 5000°Fahrenheit. Note how steel and glass reinforced plastic melted and burned through.
Only the General Electric quartz-reinforced plastic (at right) withstood the flame and retained its structural strength—yet the flame was kept on this sample over three times as long!

Test proves new G-E light-weight Quartz Thread helps solve heat problems of outer space

ROCKS TO ROCKETS—General Electric's new Quartz Thread is spun from tiny monofilaments that are only 1/10th as thick as human hair. Made from rock-like crystals, the monofilament is twisted into thread . . . then woven into a fabric that withstands thermal erosion and retains its tensile strength at elevated temperatures far in excess of any other textile. Cloth made from this new G-E Quartz Thread provides plastics with a greater per cent retention of strength, making them suitable for rocket and missile applications.

FREE BROCHURE—Send for free 5-page brochure on new G-E Quartz Thread. Gives general description, covers physical properties (tensile strength, elongation, viscosity, density), details the chemical properties, and provides information for ordering. Write: General Electric Co., Willoughby Quartz Plant, Dept. NED-49, Willoughby, Ohio.

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle NED-490 D9 on enclosed inquiry slip ▲

"SILVER" PAPER SHREDDERS FOR COST-CONSCIOUS EXECUTIVES

USED IN THOUSANDS OF PLANTS TO REDUCE PACKING COSTS

TRY THE "SILVER 13-C" FOR 10 DAYS—FREE!

Reduce your packing material costs as much as 40% by shredding your own paper. The "Silver 13-C's" fast, efficient, low-cost operation and many new mechanical improvements make it the fastest-selling Shredder in the industrial field. 7 other models available, too, depending on your needs and capacity desired. 10-day free trial in your own plant. Write for helpful data on how you can cut your packing costs . . . at the same time, dispose of excess paper materials.

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

For more details circle NED-496 D9 on enclosed inquiry slip

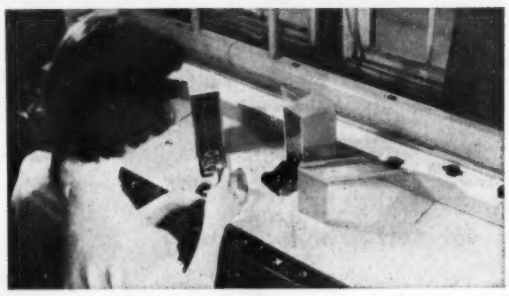
WATER FLUORINATOR mounts in drinking fountain line

Drinking water from individual fountains can be correctly fluorinated by the automatic Model FL-1 fluoride unit. It is usable in areas where general water supplies are not treated. Unit can be installed on any fountain or faucet outlet. A dual unit is also offered for delivering both fluorinated and untreated water. Attachment consists of compact fluoride source tank (with 20-year fluoride supply) and proportioning filter, mounted beneath or behind the fountain on the water supply line. Supply water is partly diverted through the tank, then readmitted to the line in proper proportions. Made by Haws Drinking Faucet Co., Fourth & Page Streets, Berkeley 10, Calif.

For more details circle NED-499 D9 on enclosed inquiry slip

WORK TRANSFER SYSTEM "building block" units integrated for particular assembly operation

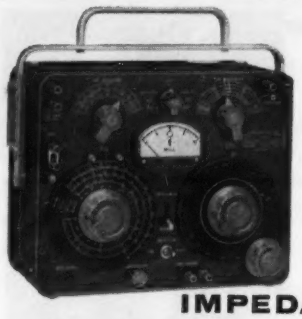
Production line conveying of parts and materials for checking or assembly is facilitated with this integrated work system made up of off-the-shelf "building



block" components. Conveyors from 2 to 12 in. wide are easily expandable to any desired length by adding sections. Travel tracks and trolleys for moving chassis, harness cable boards, transport dollies that fit into the assembly line for carrying heavy loads, and various electromechanical assemblies are offered.

Unit integral conveyors from 15 to 30 in. long carry parts from the process area to the main conveyor or transfer device. Cleat conveyors are used for steep grades. Feed-on and feed-off devices, motor drives of various types with speeds from 0 to 200 fpm, and constant tension devices are other available components. Photo shows a 2-in. wide conveyor at the front of the work area and a 3½-in. wide conveyor at the back. Double tiering of conveyors is also possible. Made by Alden Systems Co., Alden Research Center, Box 125, Westboro, Mass.

For more details circle NED-500 D9 on enclosed inquiry slip



NEW Universal IMPEDANCE BRIDGE

Replaces the famous Type 650-A Impedance Bridge with many improvements and greatly increased ranges

New Orthonull* Balancing Mechanism greatly simplifies rapid balancing; eliminates sliding null effect; avoids false nulls.

Ranges: most increased 10-fold:
R: 1 milliohm to 10 megohms
C: 1 μμf to 1,000 μf
L: 1 μh to 1,000 henries
D (series capacitance): 0.001 to 1 at 1 kc
D (parallel capacitance): 0.1 to 50 at 1 kc
Q (series inductance): 0.02 to 10 at 1 kc
Q (parallel inductance): 1 to 1000 at 1 kc

Accuracy: R, L and C ±1%
Power Supply self-contained dry cells for d-c, and 1 kc oscillator for a-c. Panel-meter null indicator for BOTH d-c and a-c measurements.
Type 1650-A Impedance Bridge $440

*U. S. Pat. No. 2,872,639

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1182 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO
In CANADA: 99 Floral Parkway, TORONTO 15

For more details circle NED-502 D9 on enclosed inquiry slip

For the intimate MIXING of floury, powdery, granular and fibrous materials

Write for Bulletin 128.

SPROUT-WALDRON
HORIZONTAL BATCH MIXERS

This equipment loads, blends, and discharges rapidly . . . is sanitary, dustless. Handles dry and damp materials . . . and liquids can be added. Ideal for the rapid, intimate mixing of small percentages of critical ingredients with a large bulk of basic material. Sizes from 1 cu. ft. to over 1,000 cu. ft. Construction materials and discharge gates to meet all applications. Available with heating, drying, and cooling attachments. Can be "adaptioneered" for special needs.

Sprout-Waldron also offers a complete line of vertical mixers. Write for details.

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— Manufacturing Engineers Since 1866 —
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EQUIPMENT FOR SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

IN/496

For more details circle NED-497 D9 on enclosed inquiry slip

TYGON GASKETS Resist CHEMICAL ATTACK

Tygon plastic is tops for gasketing in acid handling service. Tough, flexible, highly resistant to acids and alkalies. Available in sheets, tubes or solid cord from which you can cut your own gaskets quickly and inexpensively. 65E

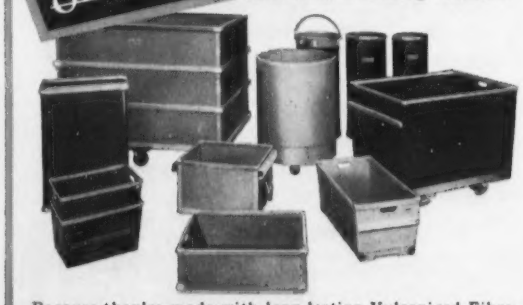
Plastics and Synthetics Division
U. S. STONEWARE
Akron 9, Ohio

WRITE for BULLETIN G-520

For more details circle NED-503 D9 on enclosed inquiry slip

SMOOTH • TOUGH • DURABLE

Spaulding VULCANIZED FIBRE Materials Handling Products



Because they're made with long-lasting Vulcanized Fibre, Spaulding Materials Handling products give longer service, greater wear. What's more, they are lightweight and resistant to water, oils, greases and splintering. Send for the free catalog for complete information on Spaulding's standard and special tote boxes, trucks and barrels.

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Dover, New Hampshire
Please send your free catalog of Spaulding Vulcanized Fibre materials handling products.
Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-498 D9 on enclosed inquiry slip

WIRE CLOTH PARTS

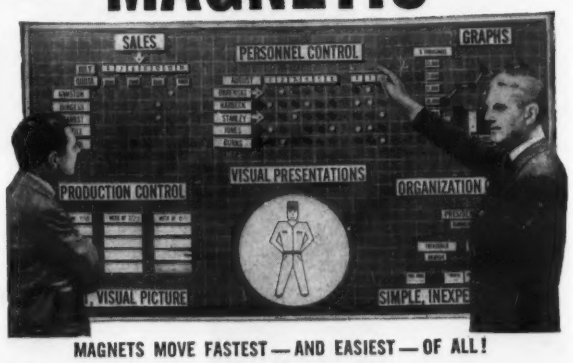
• Fast Service
• Long or Short Runs
• Low Cost
• ANY Metal
• ALL Meshes
• ANY Shape

SOLDER, BRAZE, WELD, FOLD CONSTRUCTION
For more information on this NEWARK Service, send for our Fabricated Parts Bulletin.

NEWARK WIRE CLOTH COMPANY
351 Verona Avenue • Newark 4, New Jersey

For more details circle NED-501 D9 on enclosed inquiry slip

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
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COLORFUL MAGNETIC ELEMENTS
• show facts instantly
• organize for action
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PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE4 FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS
Methods Research Corp.
442 Mosel Avenue, Staten Island 4, New York

For more details circle NED-504 D9 on enclosed inquiry slip

New! BEAD CHAIN DRIVES

Low-Speed, Positive Drives or Motion Transfer ... At Far Less Cost!

NOW—BEAD CHAIN—QUALIFIED FOR DRIVES

Swivel-like Bead Chain and special non-slip sprockets make any drive possible ... at low cost ... eliminates expensive gears, universal joints, etc. Perfect for inaccessible locations!

THE BEAD CHAIN MFG. CO.
16 Mountain Grove St., Bridgeport 5, Conn.

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Now available— SEL-LOK spring pins in beryllium copper

- Superior electrical properties
- Excellent corrosion resistance
- Fast, economical fastening

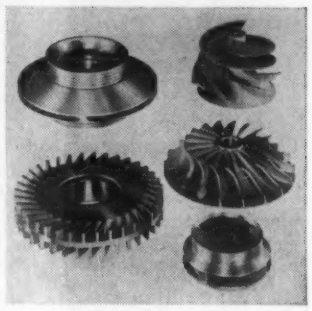
SEL-LOK spring pins made of beryllium copper give you the speed and economy of self-locking fastening, plus outstanding electrical characteristics. They have high conductivity, are nonsparking and nonmagnetic. In addition, they offer superior corrosion resistance. These properties are combined in a material having 60% the strength of carbon steel, more than ample for most applications. Sold by your authorized SPS distributor in sizes from 1/16 x 3/16 to ¼ x 3½ in. Write for Catalog Sheet 2376. (SEL-LOK spring pins also available in carbon or corrosion-resistant steel, sizes from 1/16 x 3/16 to ½ x 5 in. Request Bulletin 2331.) STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

▲ For more details circle NED-506 D9 on enclosed inquiry slip ▲

PUMP IMPELLERS precision-cast of aluminum



Made to user's specifications in sizes ranging from a few ounces to 50 lb, Bescast pump impellers are designed for air and hydraulic service. Shrouded, bucket, fan, mixed flow, and high-speed impeller types are available. They are precision-cast of aluminum to assure strength, good surface finish, and thin sections where needed. Made by **Brown Engineering Service Co.**, 29675 Lakeland Blvd., Wickliffe, Ohio.

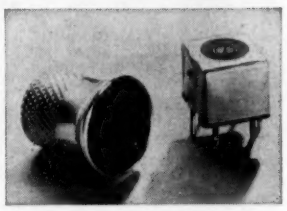
▲ For more details circle NED-508 D9 on enclosed inquiry slip ▲

DRUM ROTATOR mixes 1 to 55-gal containers

Designed for rotating 30 or 55-gal drums, the improved No. 500 portable rotator has attachments for 1 and 5-gal containers. Addition of two horizontal channel sections for rigidity helps prevent damage to light gage drums. Loads up to 500 lb can be rotated for mixing by its ½-hp motor. Switch and cord are included. Made by **Morse Mfg. Co.**, 727 W. Manlius St., East Syracuse, N. Y.

▲ For more details circle NED-509 D9 on enclosed inquiry slip ▲

TRANSFORMERS subminiature units are ½ in. high



Subminiature transformers for high frequency applications in the Weecoil H. F. line are 0.550 in. square and ½ in. high. They consist of a single-tuned IF and an oscillator coil for transistorized printed circuit use in frequencies from 1 mc to above 10.7 mc. Both top and bottom tuning are possible with the unit, suited for use wherever an external capacitor is permitted. Normally treated units will withstand high vibration and shock, high humidity, and temperatures between −40 and 185° F. Encapsulated types are available. Transformers are custom made at present. Made by **Wells Electronics Co.**, 1701 S. Main St., South Bend 23, Ind.

▲ For more details circle NED-510 D9 on enclosed inquiry slip ▲

David Round

Jib Cranes

SERIES 300

PILLAR TYPE - SELF SUPPORTING

HEADS AND WEAR RINGS Available Separately
Write for BULLETIN 225-JC

DAVID ROUND & SON, INC., CLEVELAND 22, OHIO

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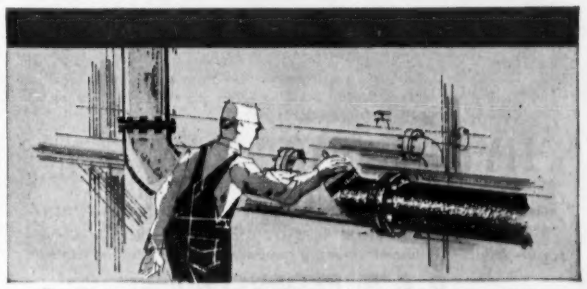
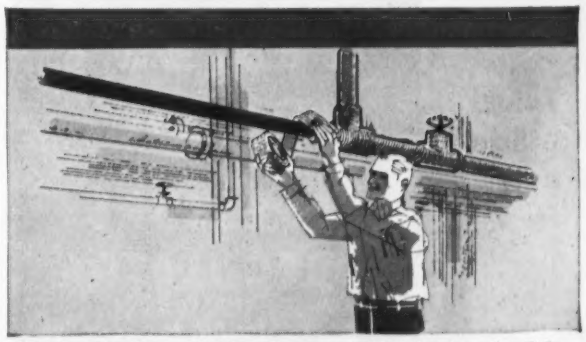
END ALL DRIP AND RUST PROBLEMS IN YOUR PLANT THESE TWO PROVEN WAYS!

Industrial plants know Mortell products offer more positive protection than any other drip-and-rust preventive. Maintenance men know that paints or compounds of paint and fish oil provide little or no permanent protection. Rust-inhibiting NoDrip Plastic Coating is a moisture-proof insulation that *does* stop condensation . . . forms a seamless jacket . . . *does* stop corrosion. NoDrip Tape, with its triple insulating barrier, is equally dependable.



For Tanks, Large Pipes, Air Ducts, Metal Equipment, Walls, Ceilings, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP PLASTIC COATING

The heavy consistency of NoDrip outlasts many coats of paint or ordinary rust-preventives. Permanently insulates and protects. Applies easily with trowel, brush or special spray. Non-toxic, odorless and non-flammable. Resists acid, alkali, brine solutions or vapors. Available in 1, 5 and 55 gallon drums.



For Smaller Pipes or Tubing, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP TAPE

An easy-to-use, wrap-around pipe covering, perfectly pliable, cork-filled, completely self-adhering. Forms an air-tight, 100% vapor- and moisture-proof jacket. Fits snugly even around tees, unions, angles, valves. Cuts maintenance costs—makes out-of-the-way storage areas useable—ends slip and slide floor hazards. No need for vapor seals, brads, fasteners or tools of any kind.

At all leading hardware, mill supply and plumbing jobbers. For complete information and technical handbook, write

JW Mortell COMPANY
526 Burch Street • Kankakee, Illinois

▲ For more details circle NED-512 D9 on enclosed inquiry slip ▲

FROM DENISON *a small hydraulic press so productive it...*

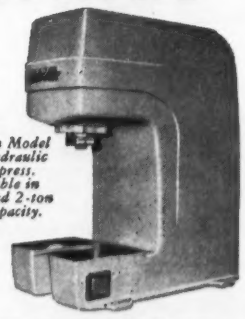
GUARANTEES YOUR SAVINGS

If in 45 days the Denison Model "A" Multipress does not cut your production costs or does not improve production quality, simplify operation or give your shop more versatility—simply return the press.

Multipress is ideal for assembly, forming, staking—and 101 other jobs. No cost or obligation to try it out now, in your own plant.

- High-speed cycle time
- Foolproof safety controls
- Manual or automatic operation
- Compact...24" high
- Lightweight...225 pounds
- 8" daylight for tooling
- Simple pressure adjustment
- Controlled hydraulic ram pressure

YOU PAY FOR ONLY THE FREIGHT



Denison Model "A" hydraulic Multipress. Available in 1-ton and 2-ton ram capacity.

Write for your copy of the detailed bulletin

DENISON ENGINEERING DIVISION
American Brake Shoe Co.
1192 Dublin Road • Columbus 16, Ohio

Denison Stocking Branch Offices: LOS ANGELES • DETROIT • HOUSTON CLEVELAND • ATLANTA • CHICAGO • NEWARK • DAYTON

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(Made with CCR-37)

DOES THE JOB *WITH NO DOWN-TIME!*

Greatest advance in paint history!

JET-DRI MULTI-PURPOSE INDUSTRIAL (NON-TOXIC) ENAMEL

Covers metal, concrete, wood, plaster . . . and dries in 15 minutes.

Wide range of colors and finishes. Also available in semi-gloss white and satin finish clear.

Free color card and descriptive literature

CONSOLIDATED CHEMICAL & PAINT MFG. CO., INC.
456 Driggs Ave., Brooklyn 11, N.Y.

▲ For more details circle NED-513 D9 on enclosed inquiry slip ▲

the penetrating force of . . .

COLD STEAM

CLEANS FASTER, BETTER, CHEAPER

Handle all kinds of cleaning jobs with the greatest of ease with HYDRO-AIR. This gun-type cleaner connects to standard air and hot or cold water supply. Compressed air "breaks" water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Operates on 1 H.P. compressor and uses less than 3½ c.f. of air and 3½ gals. of water per minute. Easy to handle — weighs less than 2 lbs. Rubber sleeve protects user's hand when hot water is used.

$11.45

● *NEW . . . Siphoning attachment for application of cleaning solvents — under pressure — on parts, machinery or any difficult surfaces for cleaning.*

HYDRO-AIR *BLASTS STUBBORN DIRT!*

PRESSURE WASHER *HARMLESS TO FINEST FINISH!*

ORDER THROUGH YOUR SUPPLIER — or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

D & M PRODUCTS, INC.
26 N. RAYMOND AVE. • PASADENA, CALIFORNIA

HYDRO-AIR is widely used throughout these industries:

Aviation	Construction	Transportation	Meat Packing
Automotive	Pharmaceutical	Railroads	Baking
Food Processing	Paper	Petroleum	Foundries
Brewing	Ship Building	Mining	Jewelry
Dairy Products	Textile	Metalworking	Leather

▲ For more details circle NED-514 D9 on enclosed inquiry slip ▲

NEW! Norgren PRESSURE REGULATOR

for Air, Non-corrosive Gases and Liquids

Actual Size

Best performance of any regulator this small . . . at a low price!

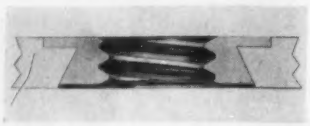
If it's Norgren . . . It's Dependable.

WRITE FOR BROCHURE No. 918 **C. A. NORGREN CO.**

3405 SOUTH ELATI STREET ENGLEWOOD, COLORADO

▲ For more details circle NED-515 D9 on enclosed inquiry slip ▲

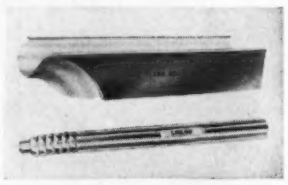
FLUSH THREAD INSERTS for thin metal sheets



A flush mounting area on both sides of the metal sheet in which it is installed is provided by this stainless steel PEM self-clinching thread insert. Fasteners are installed, one or several at a time, with a pneumatic or oil-hydraulic squeezer or mechanical press. Metal displaced by the head flows around back tapered shank, locking the fastener into the sheet. Hex shape of embedded head provides high torque resistance. Thread sizes range from No. 2-56 to No. 10-32. Inserts are suitable for use in ferrous or nonferrous sheet as thin as 0.061 in. Made by **Penn Engineering & Mfg. Corp.**, Doylestown, Pa.

▲ For more details circle NED-516 D9 on enclosed inquiry slip ▲

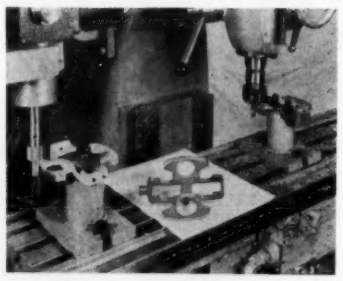
BENDING DIES & MANDRELS for all popular tube sizes



Close tolerances and extreme forming requirements on tubes of minimum wall thickness are met by these tube bending wiper dies and flexible mandrels. Stocked for immediate delivery in popular outside diameter and wall thickness sizes, they will bend in all ratios down to 1½ to 1. Smaller ratio dies and mandrels can be ordered. They are adaptable to any standard tube bending machine. Made by **Leonard Precision Products Co.**, 9200 Bolsa Ave., Santa Ana, Calif.

▲ For more details circle NED-517 D9 on enclosed inquiry slip ▲

AUTOMATIC DIESINKER converts to 360-degree contour unit



Turchan tracer control valve on this automatic diesinking machine allows instant changeover to 360-degree contouring operation for parts similar to the one shown in photo. As a diesinker, machine combines automatic feed rate control, automatic reciprocation, depth control, and automatic indexing or pick-feed. This last feature is infinitely adjustable for rough, semifinish, or fine finish work. Cross feed is infinitely variable. Climbing of walls can be eliminated by setting stops to trip when tracer strikes a wall. A flip of a switch converts the machine to 360-degree contouring involving complex shapes and perfectly vertical walls, interior or exterior. Made by **Turchan Follower Machine Co.**, Box 657, Inkster, Mich.

▲ For more details circle NED-518 D9 on enclosed inquiry slip ▲

Aftercooler and Cyclone Separator designed for cleaner, dryer compressed air

The Adams Aftercooler and Cyclone Separator are designed to efficiently condense and remove water from compressed air and process gas. Condensed moisture and entrained dirt and oil are subsequently removed in a cyclone type separator. This unit is scientifically designed for maximum removal efficiency over a wide range of flow rates.

For normal use, units are available to cool gases to within 10° F of the temperature of the cooling water. Specially designed units are available to permit a 2° F approach to cooling water temperature, for application where low moisture content is critical.

Adams Aftercoolers and Separators are available from stock to handle 20 - 40,000 cfm with 10° cooling and 25 - 19,200 cfm where it is necessary to cool within 2°F of the cooling water. Special units can be supplied to suit an unlimited range of requirements. In all cases the maximum pressure loss at rated capacities is ½ psi.

This wide range of sizes enables the economical utilization of Adams Aftercoolers and Separators in virtually all industrial application. For further information on how R. P. Adams' units will solve your compressed air problems and save you money, write today for Bulletin 711. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

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WORK-O-MATIC DROP-BOTTOM BOX A POSITIONING STAND

Partners in handling Simplification

For details, request Catalog No. 89.
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UNION METAL
Material Handling Equipmen

▲ For more details circle NED-

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***with* BUSS Fuses .**
***in the* MORTON SALT BUILDIN**

The beautiful new Morton Salt Building is located at 110 North Wacker Drive — just outside the Chicago Loop.

The most modern and safest electrical protection was needed because the engineers estimated the available fault current might easily reach a value of 75,000 amperes.

BUSS Hi-Cap fuses and FUSETRON dual-element their high in proven depend

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A fuse cann when electrica 5 years or 20 will provide t protection as o

458 **BUSSMANN MFG. DIVISION,** *McGraw-Edison Co.* University at Jeffer

There's a BUSS or FUSETRON

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The Authorized SKF

Spherical, Cylindrical, Ball, and Timken *Tapered Roller B*

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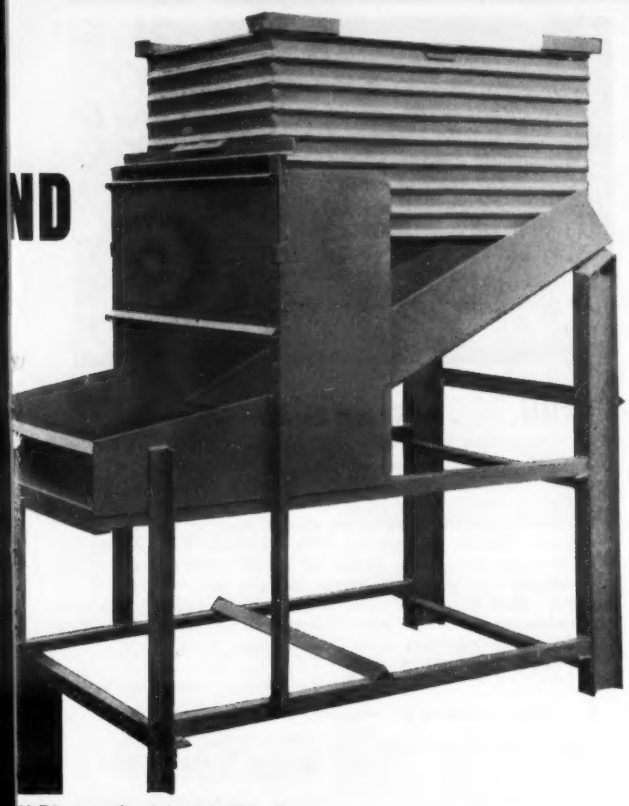
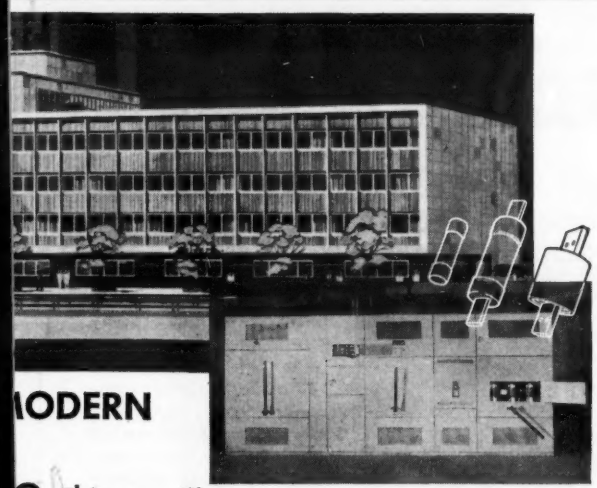


ND

20 D9 on enclosed inquiry slip ▲



MODERN

G Chicago, Ill.

uses were installed for errupting capacity and bility.

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t stick or fail to operate trouble occurs. 1 year, years from now, a fuse e same, high degree of the day it was installed.

on, St. Louis 7, Mo.

Morton Salt Building: The main switchgear — 1-4000 amp, 1-2000 amp and 1-1200 amp pressure switch, completely equipped with BUSS Hi-Cap fuses — and for coordinated, dependable, trouble-free protection distribution panels are equipped with FUSETRON dual-element fuses.

For more information
On BUSS Hi-Cap fuses, *write for bulletin HCL*
On FUSETRON fuses, *write for bulletin FIS*

fuse for every Electrical Need.

1 D9 on enclosed inquiry slip ▲

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EVERY TYPE—EVERY USE

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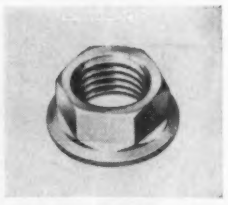
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

rings

*REG. U. S. PAT. OFF.

D9 on enclosed inquiry slip ▲

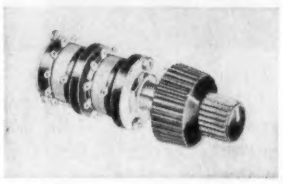
SELF-LOCKING NUTS
provide weight-space savings



Flyweight series of metal self-locking nuts affords weight-saving advantage of up to 75 per cent over AN types and space-saving advantage of 35 per cent. In spite of the reduced size and weight of this series, there is actually more cubic content of metal supporting the threads than on former sheet metal types. Reduction by two in hexagon size allows use of smaller wrenches and narrower bolting flanges. Lower height allows use of shorter threaded bolts. Low beam series T99S is offered in chrome-moly vanadium steel, with nickel cadmium diffused plating for 160,000 psi at 550° F, 90,000 psi at 900° F. Series T99C is available for low magnetic permeability requirements, as well as in brass for high electrical conductivity. A high beam, high temperature series is also available. Made by **Boots Aircraft Nut Corp.**, Norwalk, Conn.

▲ For more details circle **NED-523 D9** on enclosed inquiry slip ▲

CONCENTRIC SHAFT SWITCH
6500 deck and position combinations



Only 1 in. in diameter, this concentric shaft rotary tap switch can be mounted in half the space normally occupied. Each shaft controls from one to three decks, with two to ten shorting or nonshorting positions per deck. Over 6500 combinations of decks and positions are available. Switch is rated to carry 5 amp, or 1 amp, 115 v ac to break. It is supplied with knobs and mounting nut. Made by **Grayhill, Inc.**, 561 Hillgrove Ave., La Grange, Ill.

▲ For more details circle **NED-524 D9** on enclosed inquiry slip ▲

SUBMINIATURE SWITCH
snap-acting unit is cam operated

Subminiature, snap-acting Unimax Type 1SR-1 switch has stainless-steel roller-plunger which is actuated by a cam, as in many types of automatic equipment. Spring plunger allows 0.031 in. overtravel. Switch mounts in single hole in panels up to ¼ in. thick by means of ¼-in.-40 threaded bushing. It is rated 2.5 amp, 30 v dc inductive; 5 amp, 30 v dc, resistive; and 5 amp, 125/250 v ac. The single-pole double-throw unit meets specification MIL-S-6743 and military drawing MS-25085-1. Made by **W. L. Maxson Corp.**, Unimax Switch Div., Ives Road, Wallingford, Conn.

▲ For more details circle **NED-525 D9** on enclosed inquiry slip ▲

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LINK-BELT CONVEYOR TROLLEYS

RIDE SMOOTHER . . . LONGER

1. **EXTRA-LONG LIFE** results from carburizing and heat treating wheels, machined from steel tubing.
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3. **FREE-ROLLING ACTION AND HIGH CAPACITY** are benefits assured by precision-ground raceways.
4. **PRESS-FITTING** of bolts or rivets is another long-life feature.
5. **NO WHEEL "WOBBLE"**. Forged steel brackets provide strength to keep trolleys aligned.

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LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill.

NEW TROLLEY BOOK 2636 is now available. Send for your copy today.

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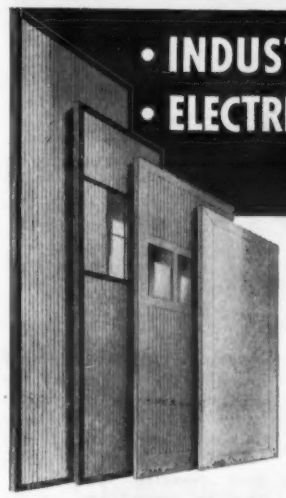

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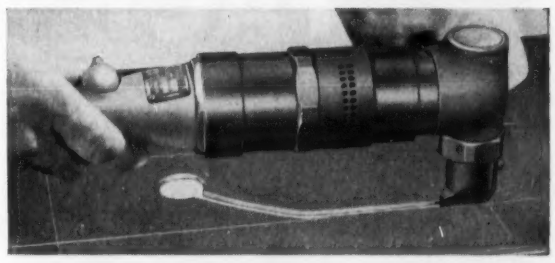
this tool cuts metals, plastics—and costs!



the BUCKEYE portable NIBBLER

Eats through 8 gauge mild steel, or heavier plastics, at 5-6 feet per minute. Makes a sharp, clean cut, without distortion on sides, top or bottom. Start cut anywhere on workpiece, follow any contour. Ten models, air or universal electric.

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Buckeye Tools CORPORATION

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THE ALL-NEW

P&S® ROCKER-GLO SWITCH

. . . the switch that *looks right, feels right* and *is right* for every type of wiring job.

Here is the one switch with the most wanted features on the market today.

The merest touch causes instant, silent action . . . and Rocker-Glo glows in the dark.

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In Canada: Renfrew Electric Limited, Renfrew, Ontario

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WHY NOT CUT COSTS, INCREASE PRODUCTION and IMPROVE QUALITY!

Model 209 CLAIR Pinch-Roll Thru-Feed Surface Finishing machine will handle any and all types of sheet or coil stock up to 40" wide. Takes any thickness from extremely light gauge to heavy plate for all degrees of finishing. Truly an incredibly versatile finishing machine ready to solve almost any problem you might be having with elementary metals, alloys, woods, laminated surfaces, plastics, printed circuitry, etc., etc.

Model No. 209 can be reset in a couple of minutes for any operation such as: coarse stock removal, satin finishes, highly colored mirror surfaces, polishing, buffing, cleaning, delustering, brushing, waxing, etc., or, the equivalent of wide abrasive belt applications with the patented spiral wrap abrasive roll. Rate of pinch roll feed is easily and quickly adjustable.

CLAIR MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

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FICTION and FACT

FICTION: Heavy weight is a requirement for heavy duty panel type air filters.

FACT: RP Aluminum Industrial Air Filters weigh only 4 pounds (20" x 20" x 2") compared to 12 pounds for a steel filter of equivalent size.

Multi-Velocity Industrial AIR FILTERS

Strength and ruggedness, with light weight, is an important advantage of R P Multi-Velocity Industrial Air Filters. Constructed of aluminum, these permanent-type washable filters are safe and easy to handle, during installation...during cleaning; eliminate the necessity for expensive, heavy structural design in filter bank construction; reduce operating costs through longer service life and faster, easier handling; are non-rusting, corrosion-resistant.

Plus—ODOR REMOVAL—automatic, efficient absorption of odors through the use of R P Super Filter-Coat, the odor and dirt removing adhesive.

Write for complete information.

RP Products of Research

RESEARCH PRODUCTS Corporation
Dept. 445, Madison 10, Wisconsin

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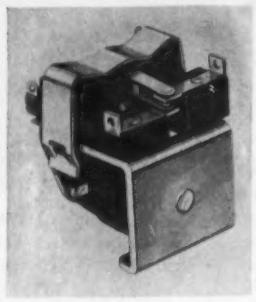
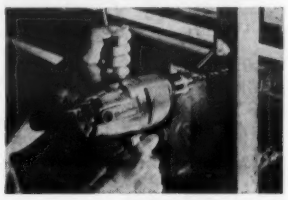
TWO-POLE RELAY
rated at 2 amp resistive



Two-pole Type FC general purpose relay has silver contacts riveted to a molded panel. The low cost unit is rated at 2 amp resistive at 26.5 v dc or 115 v ac. It can operate on as low as 200 milliwatts as a single-pole single-throw relay, or at up to 2 w as a double-pole single-throw relay. Coils for up to 115 v dc are available. Made by Allied Control Co., 2 E. End Ave., New York 21, N. Y.

▲ For more details circle NED-532 D9 on enclosed inquiry slip ▲

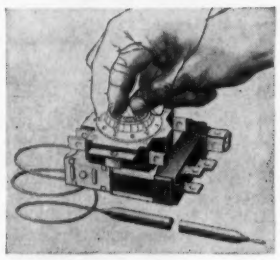
PORTABLE POWER DRILLS
1/4 and 1/2-in. models added to line



A 62 per cent power increase over previous models is built into the Model 679 special 1/2-in. Drill, one of two new models. It drills up to 1/2-in. holes in steel, 3/4 in. in masonry, 1 in. in hardwood, and will drive hole saws up to 2 in. This compact, 7 1/2-lb drill is suitable for extra heavy jobs in machinery, rigging, construction, and repair work. The 3-lb No. 680 drill for light automotive work, service trades, and repair will drill 1/4-in. hole in steel, 1/2-in. in hardwood and can drive hole saws with up to 1 1/8-in. diameters. Drills are respectively priced at $50 and $16.95. Made by Black & Decker Mfg. Co., 762 E. Pennsylvania Ave., Towson 4, Md.

▲ For more details circle NED-533 D9 on enclosed inquiry slip ▲

CYCLING THERMOSTATS
designed for shallow depth mounting



Window or unit air conditioners, compressors, strip heaters, and reverse-cycle heat pumps are controlled by C21 and C22 cycling thermostats, designed for mounting where space depth is at a minimum. Both models are available as thermostats alone, or with the dial-within-a-dial circuit selector for up to four circuits. Model C21 is rated at 20 amp full load, 78 amp locked rotor at 115/230 v ac, or 20 amp at 250 v ac noninductive. It has a 3-degree minimum differential and 35-degree dial range. Model C22 has the same electrical rating with a 3 1/2-degree minimum differential. Made by Ranco Inc., 601 W. Fifth Ave., Columbus 1, Ohio.

▲ For more details circle NED-534 D9 on enclosed inquiry slip ▲

Make Your Old BULB-TYPE OVEN More Efficient by Installing driQuik F. R. Assemblies

Replace IN TWO EASY STEPS

You can free yourself from the expense of replacement of burned-out infra-red bulbs by installing driQuik F. R. Assemblies. These units fit into your present oven and enable you to save most of the cost of a new oven. Take advantage of greater efficiency of driQuik ceramic-type generators.

TEMPERATURE CONTROL, ALSO

With the change-over you can enjoy accurate temperature control: from 0% to 100% of rated capacity. Write for literature giving complete data.

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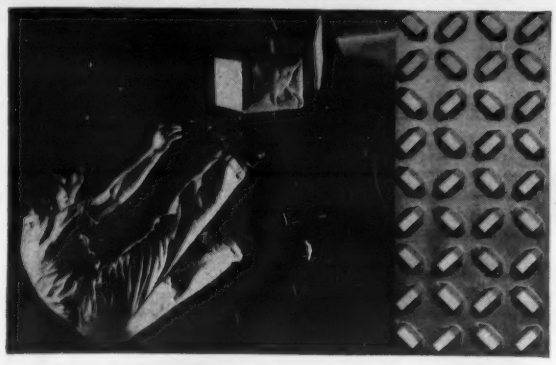

$100,000 for a fall! *It's true that slips cost more than Multigrip.* Companies have been sued for $100,000 or more because of falls. Fortunately the average cost is less than this but many settlements run over $1,000.

Falls account for about 1 in 5 industrial injuries, but you can help eliminate many of the danger spots by starting a definite program of installing USS Multigrip Floor Plate on machine shop floors, aisles, cat-walks, stairs and other accident-prone areas. Multigrip is safe—wet or dry. It doesn't crack or splinter under heavy traffic and saves many maintenance dollars. Workers like it—and so does management. For information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

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A DIVISION OF Parker Hannifin CORPORATION

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Ratios from 3:1 to 2700:1

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Whether you require a Universal, Induction or Shaded Pole Gear Motor or individual Gear Reduction Units, Howard can fill your mechanical and electrical requirements from a complete line of standard models that assures you of minimum cost and delay. One of the many Howard models is shown below. Check your specs first with Howard or write for our free complete catalog.

MODEL 3000—2 Pole Shaded Pole with Gear Unit

DIAMETER: 3 7/16"

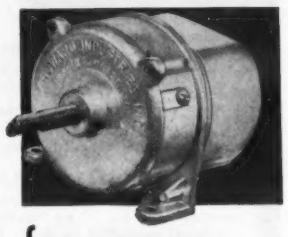
LENGTH: 3 5/8" to 4 1/2"

MAX. CONT. TORQUE:* 1 RPM (at 1 1/2" stacking length) 45 in. lbs.

MAX. INTER. TORQUE*: 1 RPM (at 1 1/2" stacking length) 70 in. lbs.

BEARINGS: Porous bronze sleeve type with oil reservoir.

*With external fan. Torques at other speeds from 1 to 400 RPM also available.



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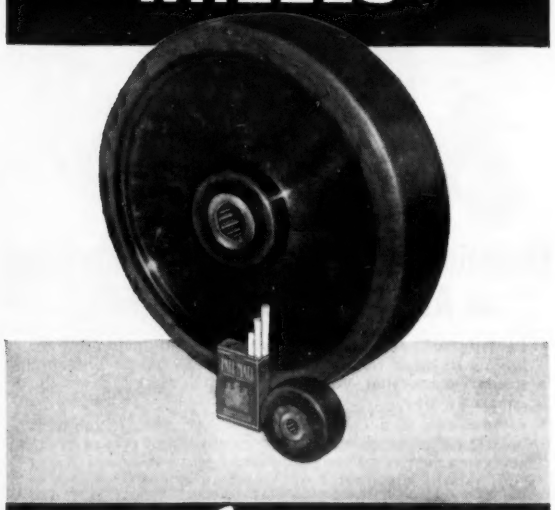
TEXITE WHEELS-



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Now...for the *first time* you can have long wearing, easy rolling, floor protective Texite wheels *in any size!* Texite wheels are those tough, high capacity industrial wheels made of heavy, macerated canvas, impregnated with phenolic resin and press formed under high pressure and temperature. Immediately available in diameters from 3 1/4" to 16", tread widths from 1 1/2" to 4" and capacities all the way to 8000 pounds. Plain, roller or sealed bearings.

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More durable than regular Texite, highly resistant to chipping or fraying. Shock or impact resistance is 35% greater and safe loading capacities are increased 25%. Available in same broad range of sizes as regular Albion Texite Wheels.

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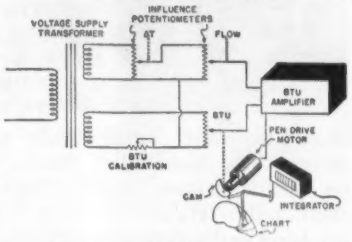
ALBION INDUSTRIES, inc.
ALBION, MICHIGAN

For more details circle NED-539 D9 on enclosed inquiry slip

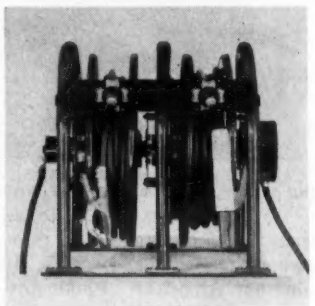
BTU METER records loss or gain in liquid flow

Continuous recording, indicating, and integrating of Btu loss or gain of a flowing liquid is function of the Model 913 Btu meter. Temperature differential and and flow rate of the liquid are also recorded on the same chart. Applications include measurement of heat transfer in hot water generators, cooling towers, refrigerating systems, and other heat exchangers. Diagram outlines operation of the unit which includes a Model 245 flow transmitter. Made by **Hays Corp.**, 980 Eighth Ave., Michigan City, Ind.



For more details circle NED-540 D9 on enclosed inquiry slip

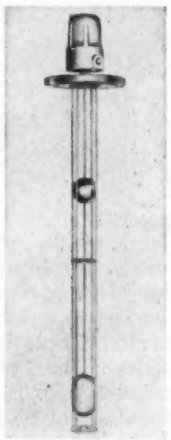
DUAL CABLE REEL for electrode and ground cables



Each of the twin reels on the Weldreel dual cable reel has a capacity of 50 ft of 2/0 cable or shorter lengths of 3/0 or 4/0 cable. Current capacity of the electrode and ground cable unit is 300 amp with 60 per cent overload factor for intermittent operation. This tubular unit for portable and fixed operations has a retracting spring and locking pawl device which is released by a slight tug on the cable. Made by **United Specialties, Inc.**, Box 698, El Dorado, Ark.

For more details circle NED-541 D9 on enclosed inquiry slip

LIQUID LEVEL CONTROL gives high and low level signals



Added to company's line of liquid level controls is this Model KT tandem control which is designed with two electrical signals, for high and low level, in one explosionproof housing. Unit thus serves as two separate controls and features the advantages of a float-operated control. It is offered for internal installation as shown, or for external use when ordered with a float chamber. Made by **Jo-Bell Products, Inc.**, 5456 W. 111th St., Oak Lawn, Ill.

For more details circle NED-542 D9 on enclosed inquiry slip

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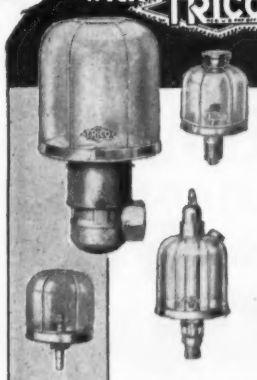
Increase Production
with TRICO AUTOMATIC OILERS



Why tolerate costly waste that can be reduced to a minimum? TRICO Oilers eliminate daily "trust-to-luck" hand oiling because one filling of the reservoir lasts a long time. Also, production can be increased, machine life prolonged, costly down-time eliminated. Yes, all these benefits and more for a small investment in TRICO Oilers.

SEND FOR FREE CATALOG

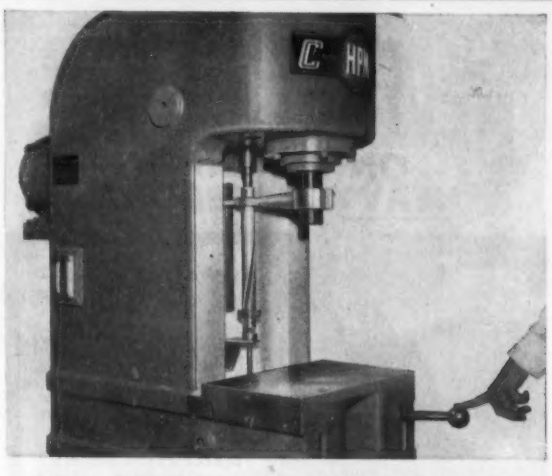
TRICO FUSE PULLERS

Speed up fuse replacement. Eliminate dangers of shock, burns, injection and compensation costs. Also handy for adjusting switch and fuse clips.

WRITE FOR BULLETIN NO. 5

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

For more details circle NED-543 D9 on enclosed inquiry slip



NEW DEMAND-RESPONSE CONTROL FOR MANUAL C-PRESS OPERATIONS

► **INSTANT RESPONSE** to the demand of the hand lever control is featured in new H-P-M C-Press Manual Presses. Here's what it means: *For straightening*, unlimited control of speed, application of tonnage on part with accuracy to gauge readings; *for compacting*, it permits rapid ram approach, operator-controlled slow compacting of powdered materials, bumping if needed; *for lab work* or other experimental jobs, unlimited control of the ram by the slightest pressure on the hand lever. Send for complete catalog information.

THE HYDRAULIC PRESS MFG. COMPANY
A Division of Koehring Co., Mount Gilead, Ohio, U.S.A. H904

For more details circle NED-544 D9 on enclosed inquiry slip

TIME YOUR TESTS IN SPLIT-SECONDS

GRA LAB

ALL PURPOSE INDUSTRIAL TIMERS

MODELS AT $23.95 TO $29.95

You can set the large 8" dial for any desired time period within an unusually wide range of 3600 possible settings, (i.e., 1 sec. to 60 min., 1 min. to 60 hrs., etc.). At end of preset interval alarm sounds and external load is automatically switched on or off.

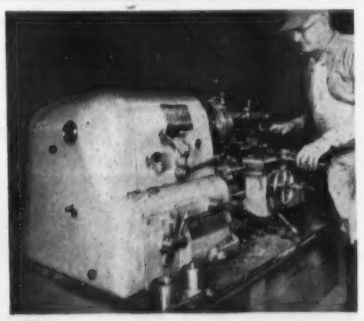
Gra-Lab Micro Timers, **Electric Stop Clocks**, are available in 1/10 sec. or 1/1000 min. graduations for split-second measurements of elapsed time in laboratory or production operations, Price $37.50

WRITE FOR COMPLETE CATALOG!

DIMCO-GRAY COMPANY 203 E. Sixth St. DAYTON 2, OHIO

For more details circle NED-545 D9 on enclosed inquiry slip

"They're Great Money-Makers!"



CLAUSING COLCHESTER GEARED-HEAD **LATHES**

HERE'S PROOF OF PERFORMANCE *from Anderson Duggar, Jr., president of Equitable Engineering Co. "Our Clausing 15" geared-head lathe is everything it looked to be and more. We want another just like it! It's extremely accurate and its features and ease of operation are making money for us."*

Clausing geared-head lathes do lead their field in capacity, performance and value. Here's why:

BIG CAPACITY — larger spindle capacities: thru-hole 3-1/16" for 17", 2-1/16" for 15", 1-9/16" for 13"; nose taper drive: L-2 for 17", L-1 for 15", L-0 for 13".

HEAVY-DUTY CONSTRUCTION — Geared-head and quick-change box run in bath of oil. Hardened, ground ways. Beds 50% iron, 50% steel.

PRECISION PERFORMANCE — built to American toolroom lathe standards of accuracy. GAMET MICRON tapered roller bearings.

OUTSTANDING QUALITY and VALUE — Clausing-Colchester lathes are acknowledged the world over to be the finest values and the most accurate in their class.

PRICES — 13" cabinet base models, including motor and controls, start at $2113 . . . 15" (illustrated) $2988 . . . 17" at $4715. Available with straight or gap bed, choice of 1 or 2-speed motors.

CLAUSING DIVISION *Write for ILLUSTRATED CATALOG.* ATLAS PRESS COMPANY
4-113 N. PITCHER STREET • KALAMAZOO, MICHIGAN

For more details circle NED-546 D9 on enclosed inquiry slip

FREE!

NEW IDEA BOOK ON PUMPING HEAVY MATERIALS

SPRAY, EXTRUDE—
- MASTICS
- SEALERS
- PLASTICS
- PUTTY
- GLUES, ETC.

DIRECT FROM DRUM!

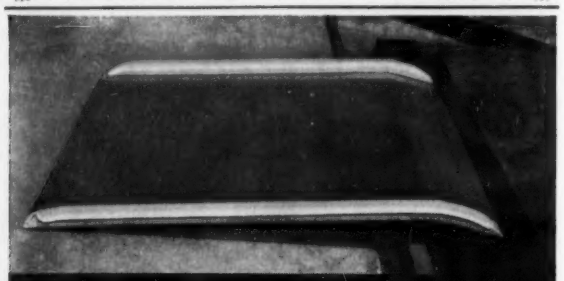
Here's the finest reference in the field! It's packed with pictures, loaded with charts, diagrams, tables of facts and figures. You *need* Graco's new book to learn about Graco's new equipment. Send for your *free* copy today.

GRACO ENGINEERS AND MANUFACTURERS

GRAY COMPANY, INC. • 47 Graco Square • Minneapolis 13, Minn.

(*See Phone Book Yellow Pages, Spraying, for Local Graco Suppliers*)

For more details circle NED-547 D9 on enclosed inquiry slip



SPEED LOADING WITH NEW B & P Magnesium Dockboards

EXCLUSIVE ONE-PIECE CURB WITH FORGED ENDS

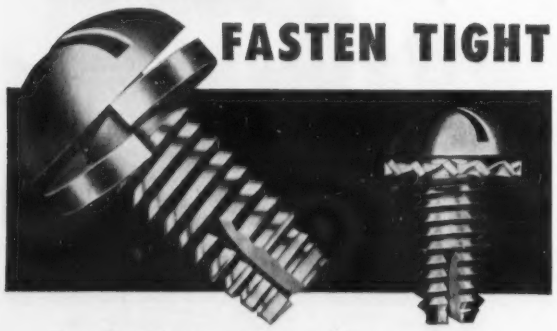
Lighter, stronger B&P Magnesium dockboards get the job done faster, easier and at less cost. All dockboards are heat treated for stress-relief after welding. B&P offers these advantages—one-piece stringer with forged ends, full-length hand grips, yellow curb markings, crowned contour, beveled edges, safety tread, wide range of sizes for every loading need.

SEND FOR FREE LITERATURE on long-lasting Magnesium dockboards, hand trucks and other mobile handling equipment by B&P.

BROOKS & PERKINS INC.
1928 W. Fort St. • Detroit 16, Mich.
Dealers in Principal Cities MH-20

For more details circle NED-548 D9 on enclosed inquiry slip

FIT RIGHT FASTEN TIGHT



Production and profits improve with

EATON-RELIANCE

THREAD-CUTTING SPRINGTITES® & SEMS

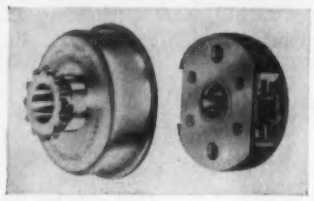
SEND FOR FREE ENGINEERING BULLETIN S-49A.

EATON RELIANCE DIVISION MANUFACTURING COMPANY
509 Charles Avenue • Massillon, Ohio

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

For more details circle NED-549 D9 on enclosed inquiry slip

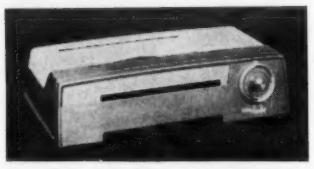
AUTOMATIC CLUTCH offered in 1 to 7-hp capacities



Designed-in engagement speed of this S-300 semiassembled automatic centrifugal clutch can be made to occur at any point from 1200 to 4000 rpm. Centrifugal action causes clutch to engage automatically and provide positive drive at the preselected speed. It can be installed on electric motors, gasoline engines, or any rotating shaft, and is available in 1 to 7-hp ratings. Various size bores and a variety of sprockets, pulleys, and drums are offered. It permits motor or prime mover to attain speed before load is applied, thus extending life and preventing overload. Made by **Comet Industries**, 801 Elm Place, Richmond, Ind.

For more details circle NED-550 D9 on enclosed inquiry slip

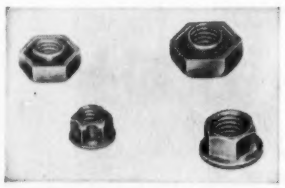
PHOTOCOPY UNIT produces multiple copies



Multiple copies of an original are produced using only one sheet of paper for each by this Auto-Stat photocopier. Used with the Copy-Quik process, machine produces multiple letter-sized copies at a cost of about 5 cents each. The lightweight unit will reproduce any written, printed, typed, drawn, or photographed office-size document in about 19 sec. It sells for $227.50. Made by **American Photocopy Equipment Co.**, Photcopy Div., 2100 W. Dempster St., Evanston, Ill.

For more details circle NED-551 D9 on enclosed inquiry slip

LIGHTWEIGHT LOCKNUTS have "minimized hex" body section



The "minimized hex" body section of Type LH3324 high strength self-locking nuts affords wrenching dimensions two socket sizes smaller than equivalent NAS or AN nuts. They are over 40 per cent lighter without sacrificing torque-tensile performance. Series is intended for aircraft and missile usage. Body section is fortified with a base ring for adequate bearing area on soft metal surfaces. The low-height nut can be used to develop the full strength of 160,000-psi bolts, including the short thread NAS series. The LH3324 series can be used for temperatures to 550° F, whereas similar Type LH3358 withstand up to 900° F. Both are available in 10-32 and ¼-in.-28 sizes. Made by **Elastic Stop Nut Corp. of America**, 2330 Vauxhall Rd., Union, N. J.

For more details circle NED-552 D9 on enclosed inquiry slip

for your

magnet problems

F-300 CERAMIC PERMANENT MAGNETS

- ✓ Economical Piece Price
- ✓ Economical Tooling
- ✓ Prompt Delivery
- ✓ Engineering and Sample Service

for

- ✓ Latches
- ✓ Can Openers
- ✓ Toys, Games, Novelties
- ✓ Bulletin Boards
- ✓ Etc.

Write for Brochure 1-59

d. m. STEWARD MANUFACTURING CO.
3620 Jerrome Ave.
Chattanooga 1, Tenn.

For more details circle NED-553 D9 on enclosed inquiry slip

Solves the "MIST"ery . . . assures the "MASTERY" of all spraying jobs.

Champion Super

Economical . . . you buy one self contained unit with 3 interchangeable nozzles.

Rugged . . . precision designed to withstand continuous use in industry.

Portable . . . only source of power is 110 volt A.C. outlet

Paints, primers, high and low viscosity liquids for disinfectant use, chemicals, fire retardants, cleansers, oils and other type lubricants . . . practically anything that is *sprayed* . . . is sprayed *better* with the Champion Super.

The Swiss built Champion Super is a revolutionary tool designed for all types of spray application. Each part is precision fitted . . . no "molded together" parts. Nozzle pressures controlled by single knob adjustment. Density of spray for different viscosities is varied by interchanging nozzles supplied. 28 ounce acid resistant plastic reservoir included. Champion Super will surpass the requirements of painters and craftsmen the world over.

1 year warranty, comprehensive instructions included only $69.50 complete

For additional information write to Dept. CP-3.

KLEPP BROTHERS, INC. Box 951,
U.S. Distributors White Plains, New York

For more details circle NED-554 D9 on enclosed inquiry slip

Eliminate 'high-cost specials' by standardizing on AMERICAN STOCK GEARS

Investigate and you'll probably find that instead of having to go to the added time and expense of ordering special gears, that your needs can be filled from the American line.

American is a complete stock gear line. It includes brass, bronze, steel, semi-steel, cast iron, and non-metallic gears in a range of 48 to 3 diametral pitch. Available from your nearby distributor of American Stock Gears.

Ask for FREE copy of American Stock Gear Catalog No. 360 containing detailed information and engineering data.

AMERICAN STOCK GEAR division
Perfection Gear Co., Harvey, Illinois

For more details circle NED-555 D9 on enclosed inquiry slip

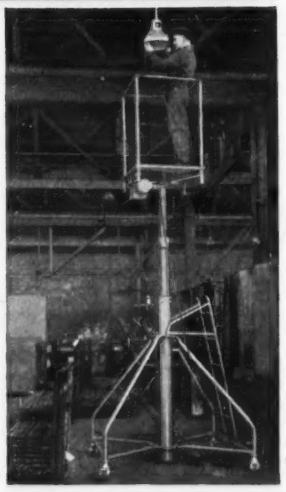
1-MAN TOWER S-T-R-E-T-C-H-E-S TO REACH OVERHEAD WORK— SHRINKS TO CLEAR DOORS

Foot-Button Control with Battery Power or 110-volt a-c Plug-In

HIGH-LEVEL MAINTENANCE can be completed faster, better and cheaper with this handy one-man work tower!

Moto-Lift ROLLS to the job and locks . . . RISES hydraulically under control of a foot button on the platform . . . LOWERS quickly and safely . . . TELESCOPES to clear low, narrow doors and aisles.

12-volt d-c battery operated model is *self-contained*—can be used anywhere. 110-volt a-c plug-in model has 50-ft. cable to permit work *along 100 ft.* from one electric outlet. Elevates 6'8" to 17'. 400-lb. capacity.

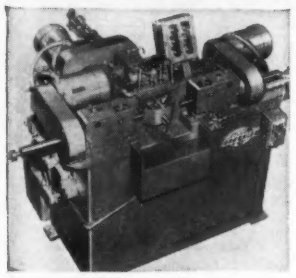


Write for FREE BULLETIN 74

SAFWAY STEEL PRODUCTS, INC.
6213 W. State St., Milwaukee 13, Wis.

For more details circle NED-556 D9 on enclosed inquiry slip

HYDRO - BORER UNIT
Lowers your costs on precision boring



In the special application shown at the left, aluminum die castings are precision bored by three Greenlee S-6 Hydro-Borers mounted on a welded steel base. Greenlee can help you reduce your boring costs. Write for further information.

GREENLEE
GREENLEE BROS. & CO.
1701 MASON AVE.
Rockford, Illinois

For more details circle NED-557 D9 on enclosed inquiry slip

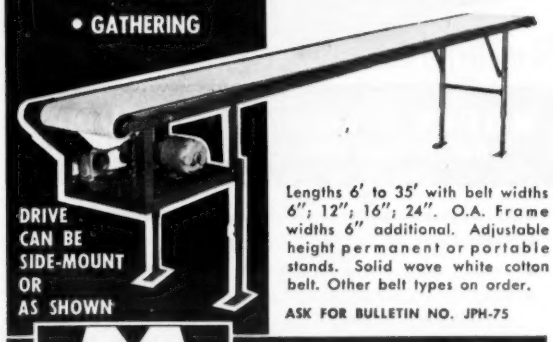
METZGAR "JPH-75" LO-COST • HI-PRODUCTION

for
• ASSEMBLY
• INSPECTION
• PACKAGING
• GATHERING

Belt speeds available to fit production requirements. 30' per minute, standard.

Removable 9" steel aprons are accessory equipment to form continuous bench type work area.

PLENTY OF KNEE-ROOM FOR WORKERS TO SIT!



Lengths 6' to 35' with belt widths 6"; 12"; 16"; 24". O.A. Frame widths 6" additional. Adjustable height permanent or portable stands. Solid wove white cotton belt. Other belt types on order.

ASK FOR BULLETIN NO. JPH-75

METZGAR CONVEYOR CO.
416 Douglas St., N.W.
MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES
GRAND RAPIDS 4, MICH.

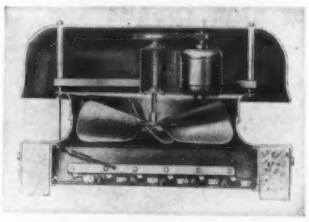
For more details circle NED-558 D9 on enclosed inquiry slip

CHAIN-HOOK LINK facilitates assembly

Chain users can now assemble TM alloy steel sling chains with Tayco hooks in their own plants using the Hammerlok coupling link. The drop-forged and heat-treated links are stronger than the chain they connect and can be assembled without special tools. The coupling is not intended to be used as a repair link in itself. Made by **S. G. Taylor Chain Co.**, Box 509, Hammond, Ind.

For more details circle NED-560 D9 on enclosed inquiry slip

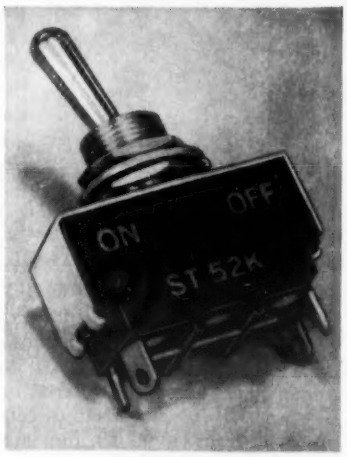
PROPELLER VENTILATOR moves 18,570 cfm of air quietly



Deep - pitched aluminum blades of Model QL belt-driven propeller ventilator deliver high capacity at low speed. Fan speeds range from 219 rpm on the 48-in. model to 690 rpm on the 24-in. size. Units are exceptionally quiet and operate at ¼-in. static pressure or less. Aluminum belt drive assembly supports motor bearings and sheaves, and floats on vibration isolators. Venturi-type spun aluminum base contains integral conduit for easy wiring. The low-silhouette ventilator is built in 2960 to 18,570 cfm sizes and is offered with motor-operated or automatic louvers. Made by **Loren Cook Co.**, 227 Depot St., Berea, Ohio.

For more details circle NED-561 D9 on enclosed inquiry slip

TOGGLE SWITCHES for electric and electronic uses



Measuring only 1⅛ x ⅝ x 1 3/64 in. these toggle switches for varied electrical and electronic applications have either screw or soldering lug terminals. They are equipped with a 15/32 - in. bushing with nuts for one-hole mounting. Single - pole single-throw, single - pole double - throw, double - pole single-throw, and double-pole double - throw types are offered. They conform to MIL-S-3950A. Made by **Kulka Electric Corp.**, 633 S. Fulton Ave., Mt. Vernon, N. Y.

For more details circle NED-562 D9 on enclosed inquiry slip

Deliver CLEAN DRY AIR *by this Exclusive Method*

No MOVING PARTS
No FILTERS TO REPLACE
No GUESSWORK

CMD **TEXTITE AIR SEPARATORS**

The accurately rated capacities of CMD Textite Air Separators assure ample C.F.M. volume to clean air and thoroughly dry it. Not mainliners; should be installed at or near point of use. Four sizes from 25 C.F.M. to 250 C.F.M. inclusive.

Send for Bulletin

CHICAGO MANUFACTURING & DISTRIBUTING CO.
1928 W. 46th St., Chicago 9, Ill.

For more details circle NED-563 D9 on enclosed inquiry slip

SUNNEN

PORTABLE HONES

SAVE MANY HOURS IN PRODUCTION, SALVAGE, JOB LOT, MAINTENANCE AND TOOL ROOM

More than 100,000 satisfied users testify to the utility of these "Tools of a Thousand Uses" for internal diameter work in nearly all materials.

Sunnen Portable Hones are guaranteed to produce geometrically round, straight bores—accurate within .0005"—with any desired cross-hatched, lubricant-retaining finish.

• CORRECTS MACHINING ERRORS
• EXACT SIZE CONTROL
• CONTROLLED SURFACE FINISH
• FASTEST STOCK REMOVAL
• POSITIVE ADJUSTMENT
• PORTABLE, YET RUGGED
• OPERATES IN ANY POSITION

Your Sunnen Field Engineer will be glad to help you solve your sizing problems at no obligation to you.

SN-75 Midget Hone	Range 1¾" to 2"
JN-95 Junior Hone	Range 2" to 2⅝"
AN-112 Standard Hone	Range 2½" to 7"
AN-812 Heavy-Duty Hone	Range 4¾" to 20½"

WRITE FOR FREE BOOKLET!
Find out how SUNNEN PORTABLE HONES can help you in your everyday shop work.

SUNNEN PRODUCTS COMPANY
HONING
7933-D Manchester Ave. • St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario
7269

For more details circle NED-564 D9 on enclosed inquiry slip

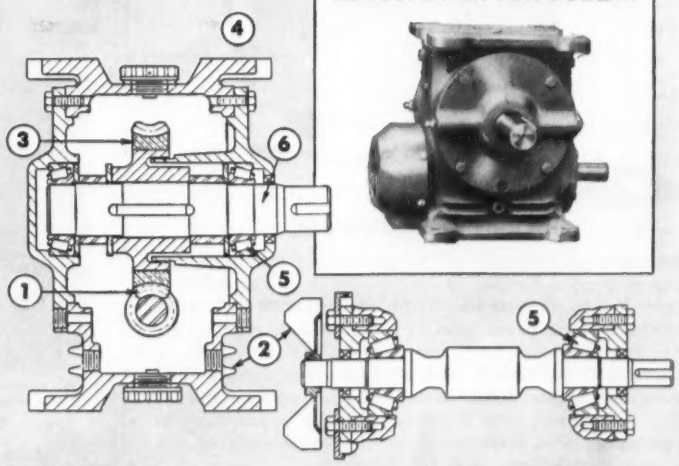
DELROYD
VERSO WORM GEAR SPEED REDUCERS

a new standard in worm gear design

Make this Value Analysis Now!

1. Involute helicoid thread form has highest load capacity of any type of worm gear.
2. Fan cooling and ribbed construction give maximum effect of heat dissipation.
3. Centrifugally cast bronze dished gear —dry well construction.
4. Unit may be mounted in any position. Alternate mounting surfaces.
5. Tapered roller bearings used throughout—provide maximum load capacity.
6. Heat treated alloy steel gear shaft with bearing and sealing diameters provide a strength of 185% of an untreated shaft of the same diameter.

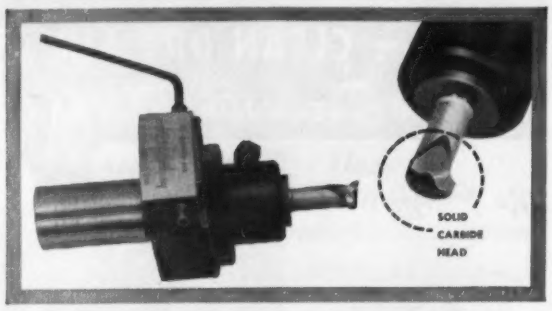
SMALLER SPACE AND MORE HORSEPOWER PER DOLLAR



Send for Catalog 5018

DE LAVAL *Steam Turbine Company*
907 Nottingham Way, Trenton 2, New Jersey
DL444A

For more details circle NED-559 D9 on enclosed inquiry slip



BOKUM Your Best Buy in Boring Tools

Illustrated here is one of the tool industry's most versatile combinations—the Bokum Swing Tool Holder and the Bokum Short-Neck Boring Tool with solid carbide head.

The Bokum Swing Tool Holder provides precision, offset boring on turret lathes, screw machines and multiple spindle automatics. These modern tool holders eliminate many secondary reaming operations . . . provide maximum rigidity . . . reduce set-up time because they are vernier adjustable within .001" and are available with holder shanks ranging in size from 5/8" through 1 3/4".

Bokum Short-Neck, Carbide Head Boring Tools offer maximum accuracy because their short, stubby neck increases rigidity . . . are guaranteed to maintain correct clearance angles throughout tip life . . . require sharpening on one face only and are available in as many as five neck lengths per size range.

Write today to Dept. T for catalog HSS-500; CT500 and 483-1

TRADE MARK REG. U.S. PAT. OFF.

BOKUM TOOL CO. INC.
14775 Wildemere Ave., Detroit 38, Michigan

▲ For more details circle **NED-565 D9** on enclosed inquiry slip ▲

Smooth Sealing

The Rotary Union* is practically effortless in action . . . the smoothest and longest lasting seal ever made. Ball bearings cut friction. The ROTARY UNION automatically compensates for misalignment of worn threads on machine adaptors and avoids strain on sealing surfaces. It automatically adjusts to variations in fluid pressure and maintains its tight mechanical seal when the joint is not in operation.

The ROTARY UNION is available in over 40 standard types and sizes . . . single inlet or syphon type . . . pipe sizes 1/4" through 3". Write for Bulletin 700D.

*Trade Name - Patented

(shown above) Cooling Train for Plastic Film and Sheeting

"WHERE Good Connections COUNT"®

PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Hamilton, Ont.—Montreal—Toronto

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COST OF PREVIOUS SERVICE ..... $8.00 per week
COST OF TURN-TOWL SERVICE ..... $2.10 per week

ANNUAL SAVING $306.80

Here is a typical case history of what happens when a consumer tests Turn-Towls against the towel service in use. This happened to a national firm's Buffalo (N.Y.) division.

You can save with Turn-Towl service too. Write for name of nearest distributor.

MOSINEE Sulphate Towels
BAY WEST PAPER CO.
1084 W. Mason St.
GREEN BAY, WISC.

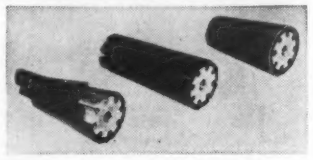
▲ For more details circle **NED-567 D9** on enclosed inquiry slip ▲

ALL-ANGLE DRILL
removable head swivels 360 degrees

Head of the RP-1 all-angle pistol drill swivels 360 degrees and locks in any position for tight spot drilling. It is easily removed for in-line drilling. Tool is powered by a 1/4-hp 3-amp motor and is offered in 1/4, 5/16, and 3/4-in. chuck capacities. Drilling speeds range from 650 to 2500 rpm. Head adapts to eight Milwaukee pistol drill models. Made by **Milwaukee Electric Tool Corp.**, 5320P W. State St., Milwaukee 8, Wis.

▲ For more details circle **NED-568 D9** on enclosed inquiry slip ▲

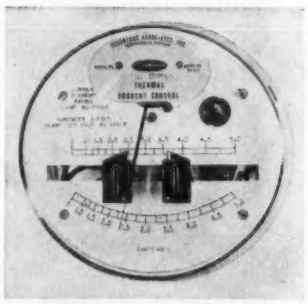
EXPANDING ABRASIVE CONE
holds sleeves at high speeds



Abrasive cones are retained under all practical grinding conditions and speeds with this expanding type Flexcone. It is made with a machine aluminum core with individual rubber flexers at the periphery. Flexers lie flat when cone is at rest for easy placement or removal of the abrasive sleeve. They expand to grip the sleeve firmly when cone is rotating. Cone can be used as a hard mandrel for heavy stock removal or as a soft mandrel for polishing. Sizes are 1 3/4 x 1 x 3 and 3 x 2 x 3 3/4 in. for 5/8-11 or 3/8-24 shafts. Made by **Nu-Matic Grinders, Inc.**, 8224 Carnegie Ave., Cleveland 3, Ohio.

▲ For more details circle **NED-569 D9** on enclosed inquiry slip ▲

CONTACT-MAKING METER
detects, controls load changes



Adjustable contacts on the indicating pointer of this contact-making meter actuate a built-in relay which will handle loads up to 20 amp directly. Meter has a thermal type movement and will detect and control minute changes in loads. The two-position control points, have a span from 5 to 100 per cent of the scale. Contacts provide control, indication, or alarm functions in mixing, blending, machining, and electrochemical operations. Ranges from 0 to 5 amp or 0 to 200 amp can be supplied for alternating-current loads without external transformers; direct-current ranges from 0 to 5 amp and 0 to 10 amp are also available. Repeatability is within 2 per cent. Made by **Technique Associates**, Box 91, Indianapolis 6, Ind.

▲ For more details circle **NED-570 D9** on enclosed inquiry slip ▲

No fumes, smoke, excess water . . . with NEW E-350 all electric Jenny®!

CLEAN AND JENOLIZE

New electrically heated and powered Jenny is ideal for use wherever open flames, fumes, smoke, or excess water is objectionable or hazardous. The E-350 cuts costs of cleaning machinery parts or equipment for maintenance, repair or repainting by 60-80%!

And with the new Jenolizing process, machinery equipment and parts are left with a coating that protects against flash rusting and gives a glossy, like-new appearance to painted surfaces. Write today for complete facts about the all-new electric Jenny and Jenolizing.

hv **HOMESTEAD VALVE MANUFACTURING COMPANY**
Hypressure Jenny Division, P. O. Box 84, Coraopolis, Pa.

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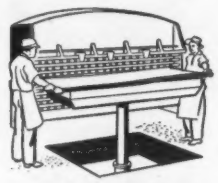
Lift it the low-cost way
WITH DEPENDABLE HYDRAULIC POWER

Load trucks from floor level . . . no dock needed

Move traffic from one floor level to another

Rotary Levelator Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.

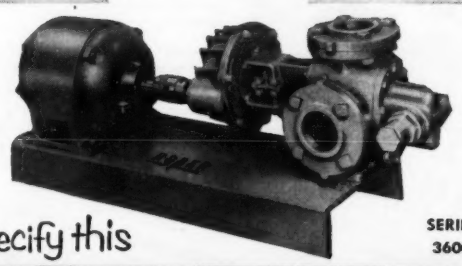


Feed machines, perform other industrial lifting jobs

Rotary® **Levelator® Lifts**
ROTARY LIFT COMPANY
Division of the Dover Corporation
1059 Kentucky, Memphis 2, Tenn. • Chatham, Ont.

▲ For more details circle **NED-572 D9** on enclosed inquiry slip ▲

Quiet... Speedy... Compact...



Specify this SERIES 3600

ROPER General Purpose **PUMP**
40 TO 300 GPM . . . TO 100 PSI

- Handles a wide range of thick or thin liquids
- Self-lubricated by liquid being pumped
- Totally-enclosed gear reduction—choice of 3 ratios
- Furnished on bed plate, with or ready to receive standard motor
- Use indoors or outdoors . . . no pump house needed

Send for Bulletins
ROPER HYDRAULICS, INC.
664 Blackhawk Park Avenue
Rockford, Illinois

ROPER ROTARY PUMPS

▲ For more details circle **NED-573 D9** on enclosed inquiry slip ▲

STRONG, NEAT ASSEMBLIES without threading, notching or drilling for cotter pins

Use plain, unthreaded rods, shafts, studs, rivets or pins and simply Push on these low-cost

PUSHNUT® FASTENERS

Type W PUSHNUTS

One-piece, heavy gauge spring steel with powerful gripping action. Cover rod ends with smooth, rugged cap. Always align perfectly. Hold tight seated or unseated. Various designs and finishes in sizes for 3/16", 1/4", 5/16", 3/8", 7/16" and 1/2" dia. unthreaded rod and studs.

Type U PUSHNUTS

New low-cost, space-saving spring steel retainers push on plain rod or axle, providing strong, firm retention of parts, seated or unseated. Eliminate notching, grooving, drilling and cotter pins. Available for 3/16" and 3/8" dia. rod; other sizes in development.

Acorn Type PUSHNUTS

Pleasing, decorative appearance and strong spring grip for fastening or covering ends of rods, studs or rivets. Open end and closed end types. Six sizes, .120" to .312" dia.

Type H PUSHNUTS

Easily, quickly pushed on unthreaded studs to assure tight, vibration-proof assembly of ornaments, medallions, nameplates and other parts. Grip tight on hard chrome studs. Sizes for 1/16", 3/64", 3/32", 1/8" and 3/16" dia. studs.

All PUSHNUTS apply manually or with high speed air hammers. Send for Free Samples and Data.

THE PALNUT COMPANY
45 Glen Road, Mountainside, N. J.
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

PALNUT® LOCK NUTS FASTENERS PAL

Quick, secure fastening at low cost

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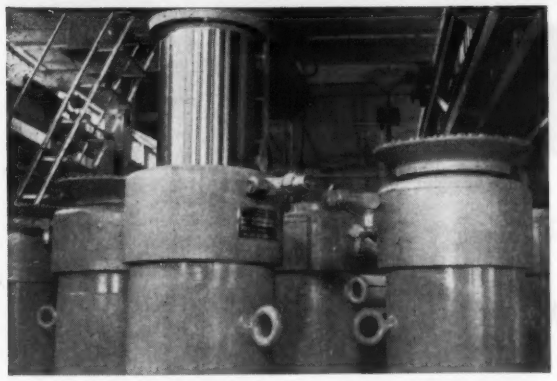

CROSBY-LAUGHLIN PAD EYES SAVE TIME

OEM's cut welding time by specifying drop forged Crosby-Laughlin* LOAD-RATED* Pad Eyes! Available in ¼" to 1¼" eye diameters and with wide, flat base that provides extra welding area for extra strength—safety. The *world's most complete line* of drop forged fittings meets a wide range of industrial applications. Free catalog has full specifications . . . dimensional data . . . U.T.S. and safe load capacities on more than 2000 items. Write:

*Trademark

CROSBY-LAUGHLIN *Division*

AMERICAN HOIST & DERRICK COMPANY

FT. WAYNE 1, INDIANA

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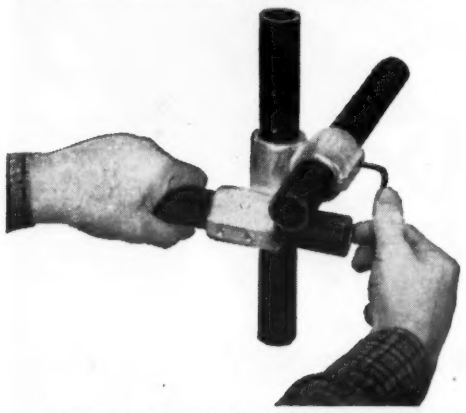
You can
BUILD
CHANGE
EXPAND
MOVE
your storage racks with only a
HEX KEY,
HACKSAW
and
RACKMASTER®
FITTINGS

RACKMASTER FITTINGS cut rack-building time as much as 60% by eliminating threading and welding. They cut other rack-building costs, too—

- pipe is 100% salvageable
- pipe-cutting is reduced to a minimum
- regular warehouse crews can build racks
- slip-on feature simplifies design and construction

RACKMASTER is stocked by leading distributors. Write for details on Rackmaster and multi-purpose NU-RAIL Fittings Bulletin 21E

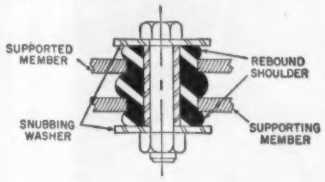
THE HOLLAENDER MANUFACTURING CO., 3841 Spring Grove Ave., CINCINNATI 23, O.



▲ For more details circle **NED-576 D9** on enclosed inquiry slip ▲

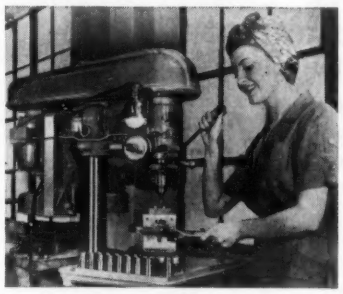
SHOCK & VIBRATION MOUNT
for mobile and portable equipment

Severe vibratory, shock, and related disturbances can be isolated by this double extension, center bonded mounting. It is applicable to flexible suspensions for all types of mobile, transport-mounted, and portable equipment. The one-piece unit with an elastomeric flexing element permanently bonded to a steel inner member absorbs torsional disturbances, distortion, and relative motion without loss of stability. Elastomeric end extensions are precompressed at installation to form two rebound shoulders for reverse loads. Made by **Lord Mfg. Co.**, 1635 W. 12th St., Erie, Pa.



▲ For more details circle **NED-578 D9** on enclosed inquiry slip ▲

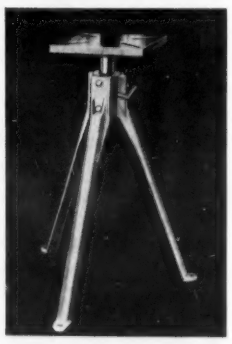
17-IN. DRILL PRESS
offered in over 75 models



Lubricated-for-life ball bearings, precision bored bearing seats, preloaded bearings, and dynamically balanced pulleys are features of this Walker-Turner 17-in. drill press. Bench and floor models have standard or power feed, single or multiple spindles, high or slow speed, and standard tilting or production type tables. A depth scale can be set to read from zero when the drill contacts the work. Capacity is 0 to ½ in. with a key chuck, or ¾ in. in cast iron and ⅝-in. in steel with a No. 2 Morse taper spindle. Made by **Rockwell Mfg. Co.**, Walker-Turner Div., Dept. 1005, 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-579 D9** on enclosed inquiry slip ▲

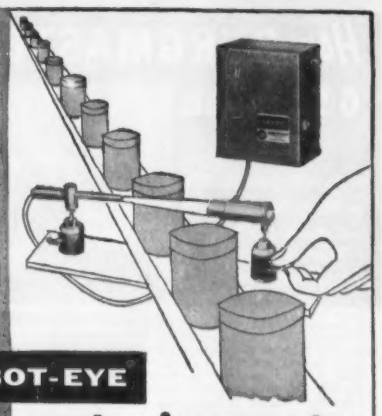
POWER TOOL TABLE
tripod unit has 12 x 12-in. top



Small power tools such as bench grinders, vises, drill presses, and jig saws can be mounted on this tripod power tool table which has a 12 x 12-in. slotted top. The top rotates 360 degrees and adjusts from 33¾ to 40 in. high. Table is made of high-tensile cast iron, and occupies less than 2 sq ft of floor space. It is priced at $28.50. Made by **Phillips & Buttorff Corp.**, 811 12th Ave. N., Nashville, Tenn.

▲ For more details circle **NED-580 D9** on enclosed inquiry slip ▲

versatile, miniaturized, low-cost photo-electric control



ROBOT-EYE

counts, sorts, inspects

RE-2 (2 pc. unit, no counter)	$44.50
RE-3 (3 pc. unit, no counter)	65.00
RE3-C4 (with 4-digit counter)	84.00
RE3-C6 (with 6-digit counter)	88.00

standard INSTRUMENT CORP.
657 BROADWAY
NEW YORK 12, N.Y.

Accurate — follows most rapid operations.
Trouble-Free — Proven for years in industry.
Easily-Installed — with universal mount.
Miniaturized — for use in smallest space.

To learn how Robot-Eye can help cut your production costs, write for Brochure CP-4.

▲ For more details circle **NED-581 D9** on enclosed inquiry slip ▲

new roofing material... TROPIGLAS

New development cuts roof repair cost to little more than material cost!

Tropiglas is the biggest roofing advance in 50 years! Ageless glass fibres make it tough, flexible, durable, light weight—it imposes no excess load on roof. Lies flat instantly—no waiting. Applied by unskilled labor, Tropiglas *embeds* in Tropical Cold Process Roofkoter, forms a tight, one-layer surface that can't blister, rot or wrinkle. Use it for all roof repair and reconditioning, for a fast, low-cost, longer-lasting job.

FREE! **Write for complete information on how TROPIGLAS does a better roof reconditioning job at lower cost.**

OUR 76th YEAR

TROPICAL PAINT COMPANY • 1124-1282 W. 70th, Cleveland 2, Ohio

Heavy-Duty Maintenance Paints Since 1883 • DIVISION OF PARKER RUST PROOF COMPANY

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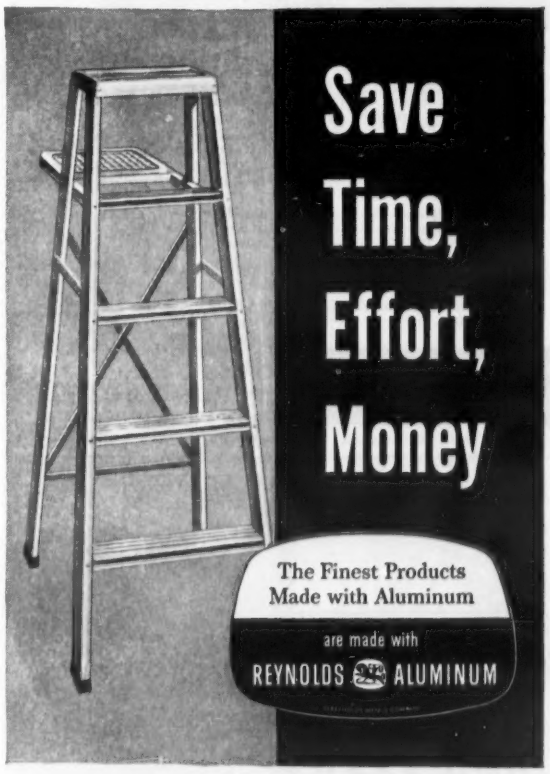
Strong, Lightweight ALUMINUM LADDERS



Aluminum ladders are easier, much easier, to move from job to job. This means savings in time and labor. And because they keep their shape, won't warp, twist or rot, aluminum ladders are safer—always keep their feet on the ground.

When purchasing ladders for use in your plant, remember their extra long life makes actual cost lower. For the names of leading ladder manufacturers who use strong, lightweight, rustproof Reynolds Aluminum, write *Reynolds Metals Company, P.O. Box 2346NO-4, Richmond 18, Virginia.*

Watch Reynolds new TV show
"WALT DISNEY PRESENTS"—every week on ABC-TV

▲ For more details circle **NED-582 D9** on enclosed inquiry slip ▲

How BURGMASTER (BENCH MODEL) 6 SPINDLE DRILL

- Increases Production 63%
- Reduces Investment 63%
- Eliminates 650 Miles Walking per Year
- Saves Space 60%

A leading producer of electronic equipment uses a Model "O" Burgmaster with power indexing turret to drill six holes of five different diameters in a brass galvanometer body. The Burgmaster installation has resulted in 63% increase in production as well as savings in space and investment with less operator fatigue. The holes range from .029 in. to .113 in. and are held to ± .0005 in. diameters in a jig.

The Burgmaster also offers greater sensitivity and has released 5 single spindle drills for other production. The 5 single spindles occupied 5 ft. of floor space compared to the Burgmaster's 2 ft. It was estimated that the operator walked 650 miles per year in the previous set-up. Now the operator remains seated during drilling.

Investment in the Burgmaster is $600 including tools compared to $1625 for a bank of 5 single spindle drills.

This production increase is made possible by **Power Indexing** of the turret which holds 6 tools for a production cycle. Fine finish and accuracy is assured by **Pre-Selective speeds** and depth control for each spindle as well as a **sensitive feed** handle. Tapping may be performed from any spindle.

Fast Precision Drilling of 6 holes in this irregular Galvanometer Brass Body with Power Indexed Burgmaster produces 5 different holes to ± .0005. The part is approximately 2½" long x 3/16" thick x 7/16" max. width.

JOB FACTS:

Part: Galvanometer Body.
Material: Brass.
Tolerances: Diameters held to ± .0005.
Machining: Drill 6 holes using jig, 5 diameters from .029 to .113.
Production Increase: 63%.
Operator Fatigue: Saves walking 650 miles per year.
Investment: $600 including tools compared to $1650 for 5 single spindles.
Space Savings: 2 feet for Burgmaster compared to 5 feet for 5 single spindle drills replaced.

Your nearest dealer will be glad to give a free demonstration of the Burgmaster to prove how you can cut your drilling costs. Ask for free literature.

MODEL "O" 1/4" CAP. IN STEEL

BURGMASTER CORPORATION
SMALL TOOL DIVISION — BURG TOOL MANUFACTURING CO., INC.
15001 South Figueroa Street, Box 311, Gardena, California
Phone: FAculty 1-3510 — Phone, wire or write Dept. OA

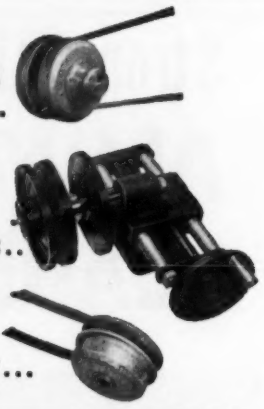
▲ For more details circle NED-583 D9 on enclosed inquiry slip ▲

3 Pulley Designs

For Constant Speed...

For Hi-Ratios..

For Economy...



CONSTANT SPEED—Hi-Lo "Loadomatic" (Automatic) Pulleys employ an exclusive cam and cam follower assembly to maintain desired speed ratio over a wide range of load variation. Sizes: ¾ to 5 hp. at 1750 rpm. Speed ratios: 1.75 up to 2.6 to 1. *Request Bulletin A458.*

HIGH RATIO—Hi-Lo Hi-Ratio Pulleys provide an extremely wide range of speeds for constant speed motors up to 1 hp. Sizes and speed ratios: fractional to ½-hp. model up to 6 to 1, fractional to 1-hp. model up to 7½ to 1. *Request Bulletin B455-2.*

ECONOMY—Hi-Lo FHP Pulleys are low cost, high quality, compact units. They feature exclusive Hi-Lo cam design for positive speed control. Three sizes: ½, ¾ and 1 hp. Speed ratios: 2 to 1 for ½ and ¾-hp. models, 2½ to 1 for 1-hp. model. *Request Bulletin C458.*

Give application details for specific information. Ask for prices.

Manufactured By HI-LO MANUFACTURING COMPANY

Nationally Distributed By LOVEJOY FLEXIBLE COUPLING COMPANY
4953H West Lake St., Chicago 44, Ill.

▲ For more details circle NED-584 D9 on enclosed inquiry slip ▲

FACTUAL NEW BOOK

on a unique (use it anywhere) check valve

Combined with practically any standard pipe fitting, the DURABLA *Basic-Check* Unit becomes a complete check valve—for almost any service. *It operates perfectly in any position... handles any liquid, gas or air.*

For the full story on these versatile valves, send for a free copy of this *new* booklet. Includes typical applications, construction details, table of sizes and weights, etc. Ask for Form 300 NED49.

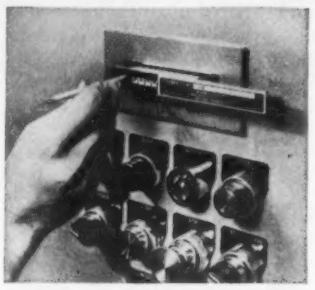
DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

Patent No. 2,649,277 DM-28

▲ For more details circle NED-585 D9 on enclosed inquiry slip ▲

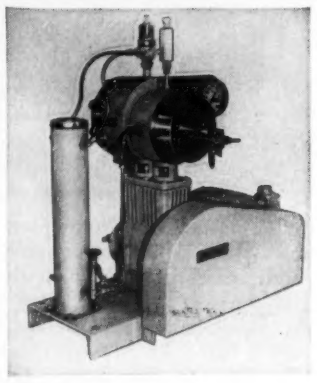
FORMULA BATCHING DEVICE preset to control ten ingredients



Up to ten ingredients in a formula are controlled to 0.1 per cent accuracy in batching operations merely plugging in proper preset Batchplug. This self-contained, electric device is about the size of a pack of cigarets and is preset with a small screwdriver. Each Batchplug represents one formula and is easily interchanged with other plugs or formulas. Five basic models are available to control up to 10 ingredients with up to three scales. A rack is available for holding several Batchplugs where a number of different formulas are used in the batching operation. Photo shows presetting adjustment being done with a screwdriver. Made by **Howe Scale Co.**, Rutland, Vt.

▲ For more details circle NED-586 D9 on enclosed inquiry slip ▲

DIAPHRAGM COMPRESSOR for lab or pilot plant use



A thin flexible stainless steel diaphragm separates the hydraulic actuating medium from the gas in Model 212-065035 two-stage compressor, designed for lab or pilot plant use. Only moving parts are the Teflon-sealed check valve poppets and the diaphragm itself. Unit will compress air, hydrogen, nitrogen, helium, ethylene, and other gases from atmosphere to 5000 psi at rate of 0.3 scfm. Raising the suction pressure to 65 psi, will up the capacity to 1.8 scfm. Both heads have built-in relief valves on the hydraulic side. Standard models have explosionproof motor, belt guard, steel base, hydraulic reservoir, interstage rupture assembly, and pressure gage. Made by **Pressure Products Industries, Inc.**, Hatboro, Pa.

▲ For more details circle NED-587 D9 on enclosed inquiry slip ▲

Oil, Water & Air Valves

Barksdale Valves—Three sections of 20-page Catalog 59-60 cover manual, foot-operated, and solenoid valves for oil, water, and air service. Over-all pressure range of these valves is from vacuum to 10,000 psi. Valves have the Shear-Seal design consisting of a pressure balanced, self-aligning, tubular seal which is always in perfect contact with optically flat porting disc or rotor.

▲ For more details circle NED-588 D9 on enclosed inquiry slip ▲

INSPECTION BY PROJECTION

with the *NEW* SCHERR MICRO PROJECTOR with the VERTICAL DESIGN

NEW IMPROVED *Self-Contained* MODEL featuring

- Rigid Floor Base — eliminating extra charge for table
- Tilting Stage for Helix, Angles and Bevels
- 4" Dia. Stage Opening
- 14" Diameter Screen
- Column Slide adjustable for wear by means of gibs. Will hold square indefinitely.
- Custom made Precision Coated Lenses and double condensers for different objectives 10 to 100X magnification.
- Surface Illuminator can be added anytime.
- An entirely new practical designed tool for Inspection Department and Production Shop.

BASIC PRICE . . . $450.00

SCHERR PRECISION COMPARATOR CHARTS

OVERLAY and REPLACEMENT STANDARD CHARTS are carried in stock.

SPECIAL CHARTS made up to your specifications.

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COMPLETE LINE OF PRECISION INSTRUMENTS

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200 ,-ND LAFAYETTE STREET • NEW YORK 12, N. Y.

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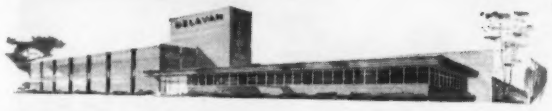
DELAVAN



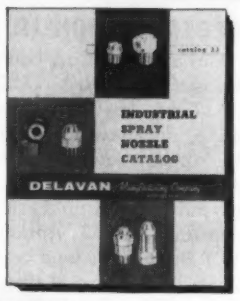
World's largest manufacturer of SPRAY NOZZLES for industrial use

You'll find the nozzle that's right for your specific requirements in the complete selection offered by Delavan.

Manufacturers all over the world rely on Delavan for high quality, precision industrial nozzles.

Whatever your nozzle requirements, specify Delavan.

Write for Catalog 33 for complete details and technical specifications.



DELAVAN Manufacturing Company
WEST DES MOINES, IOWA
World's largest nozzle specialist

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MOST ADAPTABLE HORIZONTAL CONVEYOR

HYTROL Model T is quick to set up in your assembly, sorting, packing and other applications. Available in 26 standard lengths and 5 belt widths. Completely adjustable belt speeds and stand heights. Rugged construction, job-fitted to your requirements.

Write for new Hytrol *Complete Line* Catalog.

QUICK DELIVERY
Pre-engineered components speed Hytrol Conveyors to you.

HYTROL Conveyor Co. INC.
1957 S. 54th Street Milwaukee 19, Wis.

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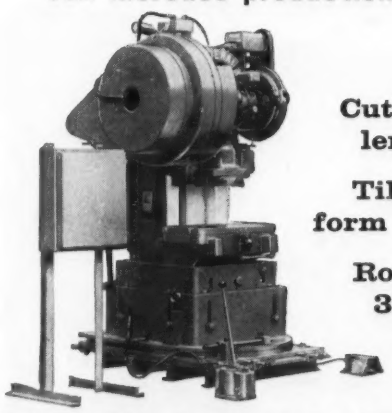
New FEDERAL
"FLYING CUTOFF"
can increase production 100%



Cuts any length

Tilts to form shapes

Rotates 360°

Federal's new "Flying Cutoff" is adaptable to a variety of metalworking operations where rolling mills are used. It can double production . . . cut costs . . . help you beat competition. Air-clutch control panel synchronizes press with speed of mill—permits cutting bars, channels, angles, other shapes to *any length*—continuously. Custom fabricated base provides for 360° rotation of the press. Hydraulic power permits tilting at any angle to form shapes. One-piece, machine tool grade cast iron frame, finest workmanship, and many other quality features. Up to 100-ton capacity. Write for catalog!

FEDERAL PRESS COMPANY, 906 Division Street, Elkhart, Indiana

FEDERAL Open back Inclinable PRESSES

34 Years of Quality Construction

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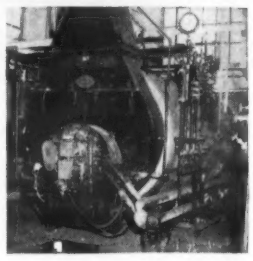
Leffel Performance Exceeds Promises

"After two and one half years of constant use we are firmly convinced that the Leffel Scotch boiler does everything claimed for it and much more besides . . . Our Maintenance Department states that fuel consumption is low and that we haven't had any repairs to make and that the boiler is exceedingly responsive and easy to clean and maintain."

G. G. Barr, Vice-President
Backstay Welt Company, Inc.
Union City, Indiana



Constant performance, not promises, is what counts when you buy a boiler. Test results obtained under laboratory conditions which cannot be duplicated in the field are no guarantee of how a boiler will perform for you. Beware of those offering nothing but promises. Insist on proof of performance . . . proof based on operating experience such as that reported by Mr. Barr and hundreds of other satisfied Leffel customers.

For complete details on Leffel boilers — gas, oil or coal fired — for requirements from 6 to 500 HP, write today for your free copy of Bulletin 236.

THE JAMES LEFFEL & COMPANY
Dept. D
SPRINGFIELD, OHIO

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complete metal working facilities including . . .

TUBING—Square, Round, Rectangular and special shapes

WIRE MESH—All Gages

SPECIAL FABRICATIONS

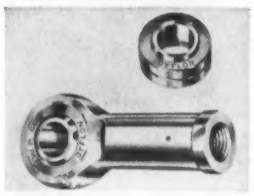
Write for complete catalog!

EQUIPMENT MFG. INC.

21566 HOOVER ROAD DETROIT 5, MICHIGAN

▲ For more details circle **NED-594 D9** on enclosed inquiry slip ▲

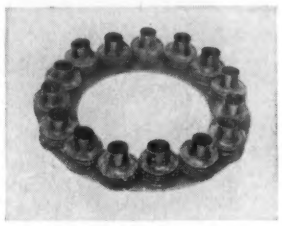
SELF-ALIGNING BEARINGS
plain and rod-end type offered



Dyflon Monoball self-aligning bearings are suited for uses requiring low coefficient of friction, long life without lubrication, and high dynamic load-carrying capacity. Wide variety of self-lubricating plain and rod-end types is offered in bore diameters from 3/16 to 6 in. Latter type has external or internal threaded shanks. Materials include chrome alloy steel, stainless steel, and plastics to meet requirements. Made by **Southwest Products Co.**, 1705 S. Mountain Ave., Monrovia, Calif.

▲ For more details circle **NED-595 D9** on enclosed inquiry slip ▲

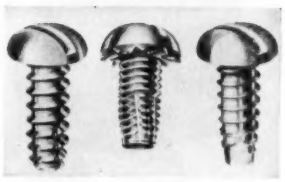
MULTIPLE-HEAD PROTECTOR
made from neoprene-base material



This multiple-head protector, fabricated from neoprene - base materials, can be applied to multiple-die punch presses and multiple-head drilling and tapping machines. Any number of vertical or horizontal spindles can be equipped with these accordion-type telescoping sleeves. Photo shows 15 independent sleeves assembled together in a single, flange mounting ring. When the protector is installed on the machine tool, locking plate on the tool head locks the neoprene mounting ring into position. Bottom end of each sleeve is fitted with draw wires for clamping to individual spindle shanks. Sleeves can be of any diameter or of any extended, open length. Made by **A & A Mfg. Co.**, 712 S. 12th St., Milwaukee 4, Wis.

▲ For more details circle **NED-596 D9** on enclosed inquiry slip ▲

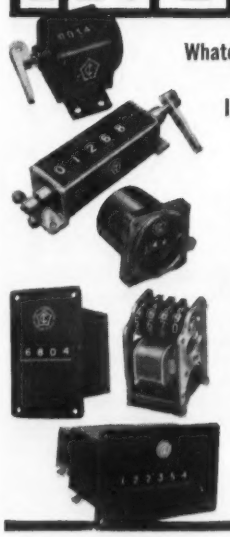
THREAD-CUTTING SCREWS
two types for metal, one for nylon



Five deep flutes of continuous depth, sharp cutting edges, and completely formed threads enable improved Type F and B-F thread-cutting screws to clear accumulated material and assure minimum stresses in driving. Type F cuts a machine screw thread as it is turned into castings, forgings, sheet metal, structural steel, plastics, and resin-impregnated plywood. Pentap Type B-F with coarse pitch to distribute cutting pressure evenly is designed to prevent cracking of thin sections and bosses in friable and brittle materials. Third fastener is Type L for use in nylon assemblies which must be disassembled for service. Made by **General American Transportation Corp.**, Parker-Kalon Div., Clifton, N. J.

▲ For more details circle **NED-597 D9** on enclosed inquiry slip ▲

A Complete Line of
COUNTING INSTRUMENTS
from
INTIMEX



Whatever your counting problem, there's a precision-built counter from INTIMEX to solve that problem . . accurately, economically.

You can depend on INTIMEX for rapid delivery of all types of counting instruments, ranging from Small and Medium Size Counters (with or without resets) to High Speed, Quick Reset Electro-Magnetic Counters and Photo Transistor Counters. There's an INTIMEX Counter to insure accuracy in your counting operation . . . INTIMEX takes the thinking out of counting.

Engineering available on special counting problems.

FREE Literature Available, write:

INTIMEX CORPORATION
Richardson Bldg., Bonifant & Fenton Sts.
Silver Spring, Maryland • (Washington, D. C.)

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LOOK! IT FITS FLUSH TO WALL!

New Westinghouse "Wall Line" Water Cooler doesn't jut into passageways!

Other water coolers jut out 18 to 22 inches from the wall due to exposed plumbing—but the new Westinghouse "Wall Line" fits in a space only 12½ inches deep. *That's because all the plumbing's inside the cabinet!* For the complete story, call your Westinghouse Distributor in the Yellow Pages under "Water Coolers."

YOU CAN BE SURE...IF IT'S **Westinghouse**

Water Cooler Dept. • Springfield 2, Mass.

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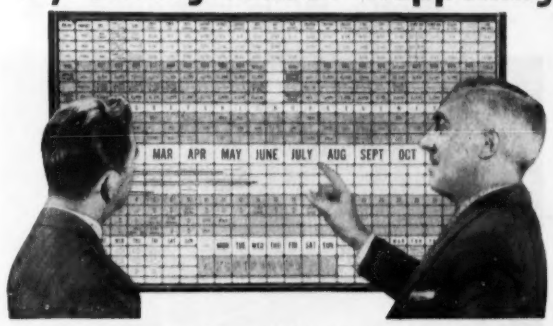
You Get Things Done Better By Seeing What's Happening



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FREE 24-Page ILLUSTRATED BOOKLET N-500 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36, N. Y.

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When New Molds Stick use **IMS SILICONE FLUID**

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING — releases patterns from master molds with minimum surface defects. Remember . . .

WHERE ANYTHING STICKS
it always pays to try
IMS SILICONE SPRAY

Get new tools into production sooner. Keep a few cans handy all the time. Order today!

DELIVERED PRICES
Single Can $2.00
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INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD WYoming 1-1424 CLEVELAND 20, OHIO

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You can't beat Sanding with a

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LIGHTWEIGHT, FAST, DEPENDABLE

Weighing only 4 pounds . . . yet so powerful you can't stall it by standing on it . . . this Air Driven, Orbital Action Sander gives a perfect finish, quickly and easily.

NATIONAL N D DETROIT

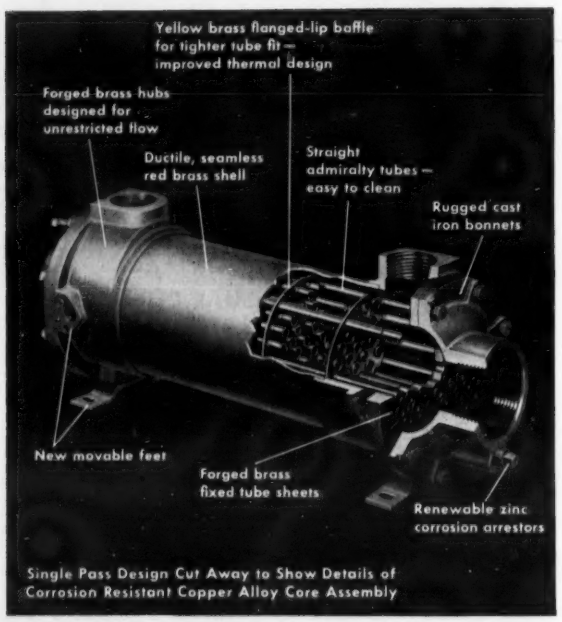
See how "Mity-Midget" can save you time and money. Write for a complete catalog today.

NATIONAL-DETROIT, INC., ROCKFORD, ILLINOIS

For more details circle NED-602 D9 on enclosed inquiry slip

LOOK AT THE LEADER'S LATEST

New design of a famous line . . . Ross BCF Exchangers



Single Pass Design Cut Away to Show Details of Corrosion Resistant Copper Alloy Core Assembly

LOOK AT THE LIST . . . new design features, new sizes, new capacities, new mountings, new materials . . . *new low prices!* The leader and originator of small, compact, fully standardized exchangers takes another step forward.

Ross Heat Exchanger (now part of American-Standard* Industrial Division) originated the whole BCF idea 15 years ago. Before then, pre-engineered design, mass produced parts and stocked assemblies were untried for a unit of this type. Designers and users of original equipment were quick to adopt the BCF as standard. Today, on a larger scale than ever, it is cooling lube oil, jacket water, hydraulic and other fluids for a wide variety of industries.

But, even with such success, the BCF has never been permitted to stand still. Ross has persisted in making constant design refinements and performance improvements . . . *the latest are typical: New* baffles with flanged lip at each tube hole and around outer edge for tighter fit and improved thermal characteristics. *New* stamped steel feet, movable in three positions around hubs for easy, more adaptable mounting. *New* sizes and capacities . . . 46 models . . . one, two or four pass designs . . . giving greater selection than ever before. *Look at the leader's latest. Send in the coupon below for the new Ross Bulletin 1.1K6 . . . an up-to-date run down on the new Ross Type BCF Exchanger.*

American-Standard Industrial Division
Detroit 32, Mich.
Please send your new Bulletin 1.1K6. NED459
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AMERICAN-Standard
INDUSTRIAL DIVISION
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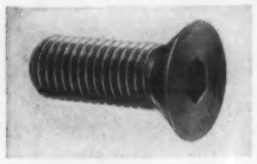
For more details circle NED-603 D9 on enclosed inquiry slip

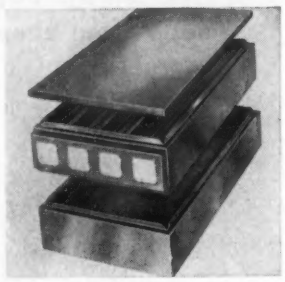
SOCKET CAP SCREWS
flat head type is cold forged



Hex running all the way to the bottom of the deep, chip-free socket is a feature of these flat head socket cap screws. They are made by cold forging which compresses and densifies the steel structure. Sides of the head are sharp and even at the top with a uniform taper. Uniform length screws have rolled threads. Made by **Brighton Screw & Mfg. Co.**, 1841 Reading Rd., Cincinnati, Ohio.

For more details circle NED-604 D9 on enclosed inquiry slip

DRAWING-TRACING FILES
can be stacked upwards, sidewise



Four pasteboard tubes for protective storage of rolled plans, prints, drawings, or tracings of unusual length are contained in this steel file unit. The 2⅝-in. diameter tubes are offered in lengths from 24 to 60 in. at 6-in. intervals. Drop door with snap closure provides for slip-in cards to identify material in each tube. File units fit over one another and can be fastened together laterally to form a single, rigid bank. A single unit in the minimum 24-in. length retails for $5.95. Made by **Plan Hold Corp.**, 5204 Chakemco St., South Gate, Calif.

For more details circle NED-605 D9 on enclosed inquiry slip

POWER SWEEPER
cleans 40-in. path with side brush

Traveling at up to 5 mph, Model 53 rider-type power sweeper cleans a 28-in. path or a 40-in. path if equipped with a side brush. Designed for use in narrow aisles, machine picks up heavy, bulky debris and fine dust at the same time. Main brush revolves inside vacuum-equipment compartment to hurl heavy dirt forward into 4.5-cu ft hopper. As machine moves forward, hopper pivots upward to allow bulky debris to reach brush. A 430-cfm fan sucks up lighter dust. Brushes, available in either fiber, wire, or combinations of each, can be changed in 5 min. Sweeper is powered by a 7-hp air-cooled engine, has front wheel drive, and turns in a 60-in. radius. Made by **G. H. Tennant Co.**, 721 N. Lilac Dr., Minneapolis 22, Minn.

For more details circle NED-606 D9 on enclosed inquiry slip

New CHIKSAN DS SERIES

SWIVEL JOINT for CHEMICAL, STEAM & HOT GAS SERVICES

Versatile Packing Design Permits Use of Disc or Molded Packings to Handle Wide Variety of services

Send for Free Bulletin 1258

Replace seals with swivel joint in the line.

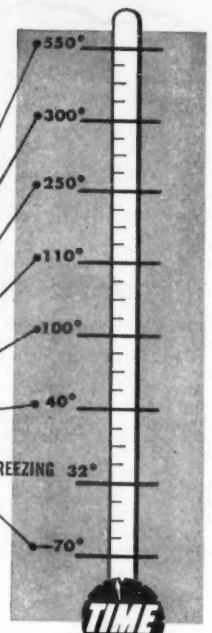
New multiple service swivel joint handles chemicals from −40°F. to +400°F. as well as steam and hot gas. Change seals only. Use molded elastomer packings, including new Viton "A", for many chemicals and general services. For steam and hot gas, use disc seal. DS Series swivel joints are rated at 1000 psi or maximum temperature of 600°F. Information on packing types and materials for specific services, dimensions, and pressure-temperature relationship chart are in bulletin 258.

CHIKSAN COMPANY
BREA, CALIF., CHICAGO 5, ILL., NEWARK 2, N. J.
Subsidiaries: Chiksan Export Co., Chiksan of Canada Ltd

For more details circle NED-607 D9 on enclosed inquiry slip

TIME HI-TEMP TAPES

+550° to −70° F



TIME HI-TEMP TAPES are remarkably exposure resistant to normal or extreme atmospheric conditions even when subjected to testing equipment simulating these effects.

Ideally suited for testing in
OVENS
STERILIZERS
AUTOCLAVES
INCUBATORS
WATER BATHS
REFRIGERATORS
SUB-ZERO CABINETS

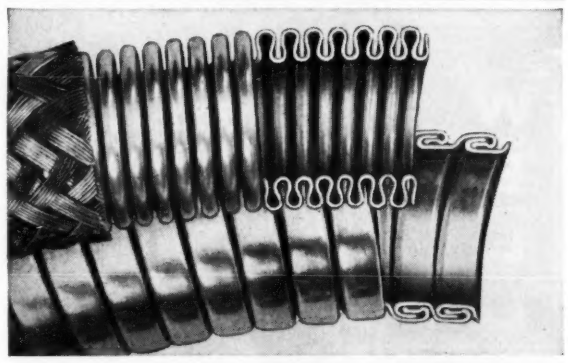
TIME HI-TEMP TAPES are completely unaffected by heat, steam, cold or freezing temperatures, acids or alkalies, moisture or oxidation.

Can be imprinted with your message. For sample and prices write to Dept. 591.

TIME SELF STICKING LABELS VINYL COATED

PROFESSIONAL TAPE CO., INC.
355 BURLINGTON RD. • RIVERSIDE, ILL.

For more details circle NED-608 D9 on enclosed inquiry slip



TWO BASIC TYPES OF FLEXIBLE METAL HOSE AVAILABLE FROM ANACONDA

Seamless Corrugated and Stripwound. Both types available in a wide range of sizes and styles in any workable metal. Furnished with or without end fittings attached. *Seamless* (top) is an easily installed, low-maintenance, long-life solution to any flexible connector problem involving conveyance of steam, oil, liquids, gases under pressure. *Stripwound* (bottom) heavy-duty hose combines all-metal strength with extreme flexibility, permitting easy installation and handling—for steam, water, oil, tar, asphalt, etc.

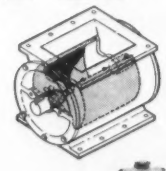
FREE CATALOG simplifies selection & ordering of flexible metal hose and tubing. For copy, write: Anaconda Metal Hose Division, The American Brass Company, Waterbury 20, Conn. 59135

WHEREVER CONNECTORS MUST MOVE ANACONDA® METAL HOSE

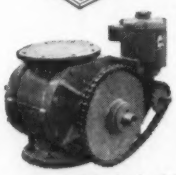
For more details circle NED-609 D9 on enclosed inquiry slip

Q: Why specify Fuller Rotary Valves and Feeders?

A: Fuller rotary valves and feeders are products of more than 30 years of designing and manufacturing equipment for handling dry bulk materials. They are built to save you money in the long run!



Fuller rotary valves feature close clearances and a double seal, which prevent leakage in the closed position. Knife edges and "V" slots at the ends of the rotor avoid sticking due to packed material. Built for either manual or remote motor control.



Fuller feeders are ruggedly built to precision tolerances for long, efficient service handling Portland cement, cement raw materials, pulverized coal, hydrated lime, etc. Available in wide range of sizes, with round or rectangular openings. Standard construction, cast iron; special metals if desired.

Technical literature is available upon request.

FULLER COMPANY GENERAL TRADE MARK

Fuller ....pioneers in harnessing AIR

1181 F-19

FULLER COMPANY
154 Bridge St., Catasauqua, Pa.
SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
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For more details circle NED-610 D9 on enclosed inquiry slip

Men like to wear this "HATFUL of SAFETY"

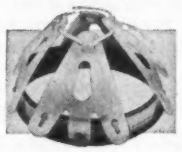
Full Head Protection with Incomparable Comfort

ONE SIZE FITS ALL HEAD SIZES
Comfortable, Form fitting

SuperGlas® SAFETY HATS & CAPS

- FIBERGLAS and toughest thermosetting Polyester resin.
- NO METAL PARTS.
- Lightest weight for easy wearing.
- Cool, ventilated suspension.
- Sweatband quickly replaceable.
- Mildew and fungus-proof.
- Waterproof.
- High dielectric resistance.
- Easily sterilized.
- S-section edge — no distortion.
- No lacing. Sweatband only ever needs replacement.
- Fully tested and approved.

NO METAL PARTS for Real Wearing Comfort



7 COLORS: White, Gray, Red, Yellow, Green, Blue, Brown (molded-in, permanent abrasion-proof).

Write for Bulletin No. 45 THE FIBRE-METAL PRODUCTS COMPANY CHESTER, PENNSYLVANIA

The WORLD'S LARGEST MANUFACTURER of SUPERIOR PROTECTIVE EQUIPMENT

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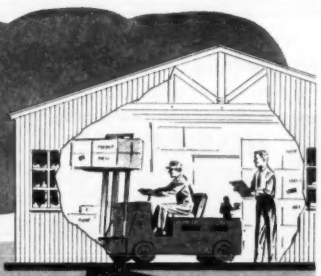
KEEP SMOG Outside...



CONVERT TO LP-GAS with BEAM BUTANE-PROPANE CARBURETION EQUIPMENT

SAVE MONEY TOO!

CLEAN: BEAM LP-Gas Carburetion virtually eliminates noxious fumes.

ECONOMICAL: Beam Carburetion conversion kits for gasoline engines TRIPLES ENGINE LIFE — SAVES up to 40% on FUEL — Cuts oil consumption 66% — Cuts motor overhaul and downtime to a minimum.

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BEAM PRODUCTS MFG. CO.
3040 Rosslyn Street • Los Angeles 65, California
CHapman 5-5791

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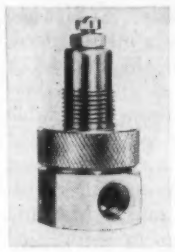
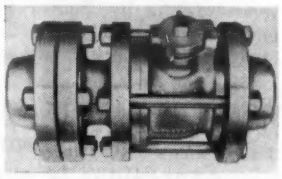
AIR PRESSURE REGULATORS
handle up to 20-cfm air flows



Air flows up to 20 cfm at 100-psi pressure can be handled by Series 20AR pressure regulators. Intended for air, water, and noncorrosive gas and liquid service, regulators measure only 3 1/32 x 1⅜ in. and are available in ⅛ and ¼-in. NPT sizes. They can be used at maximum primary pressure of 400 psi and temperatures to 200° F. Regulators have brass bonnet and body, nylon-reinforced Buna N diaphragm, Buna N seat, hand-removable bonnet, and in-line pipe connections. They can be serviced without removal from the air line. Made by **C. A. Norgren Co.**, 3400 S. Elati St., Englewood, Colo.

▲ For more details circle NED-614 D9 on enclosed inquiry slip ▲

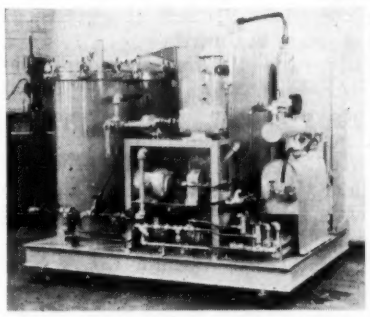
BALL VALVE
for either 150 or 300 psi service



The Four-in-one Econ-O-miser flange ball valve will serve as either a 150 or 300-lb unit. With addition of an appropriate spacer, valve will meet ASA 150 or 300-lb dimensions. Center section is inserted between two standard flanges and bolted together. Various combinations of seats, O-rings, and body materials are available to handle any media within the pressure-temperature limitations of the sealing material. Made by **Worcester Valve Co.**, 16 Parker St., Worcester 10, Mass.

▲ For more details circle NED-615 D9 on enclosed inquiry slip ▲

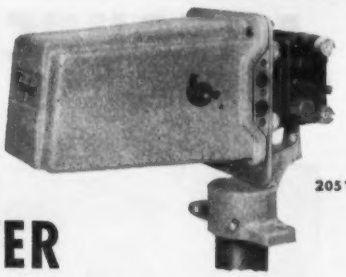
OIL RECLAIMER
filters 100 gph of hydraulic oil



This 100-X Hilco Hyflow oil reclaimer will handle 100 gph of hydraulic oil on machine tools. System consists of JIC electric controls, an inlet cellulose cartridge filter, inlet and outlet oil pumps, an outlet Fullers' earth filter, vacuum pump, and automatic draining distillate collection tank. It also employs a separate 16-gpm pump to filter the oil only. Operation is automatically controlled for recirculation of oil on the vaporizer, assuring that only purified oil is delivered from the reclaimer. Collected distillate is automatically drained to the sewer when fluid level reaches a predetermined level. Made by **Hilliard Corp.**, 102 W. Fourth St., Elmira, N. Y.

▲ For more details circle NED-616 D9 on enclosed inquiry slip ▲

LOW COST ANSWER



205T

to tough flow and level measurement

Taylor 205T Volumetric Differential Pressure Transmitter sends a 3-15 psi pneumatic impulse to a receiver or controller.

Accurate and dependable design eliminates pocketing, purging and plugging. Ideal for flow measurement of: Salt Slurries - Viscose - Liquid Sulphur Pulp Solution - Sulphuric Acid - Caustic Solution : HF Alkylation. Level measurement on: Batch Stills - Caustic Evaporators - Emulsified Asphalt Storage Tanks - Pharmaceutical Crystalizers. Differential pressure measurements: Fractionating Columns - Pumps - Filters.

Ask your Taylor Field Engineer for full details, or write for Bulletin 98281. Taylor Instrument Companies, Rochester, N. Y., or Toronto, Ontario.

Taylor Instruments MEAN ACCURACY FIRST

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3 TOP VALUES From Among 80 BIG JOE Lift Truck Models

1
"the PEDALIFT 21"
$199.00 complete
1000 lb. capacity
54 in. lifting height

2
"the 299"
$299.00 complete
1000 lb. capacity
57 in. lifting height
Battery Operated

3
"the CHALLENGER"
$397.50 complete
1500 lb. capacity
57 in. lifting height
Battery Operated

Hydraulic Handling for EVERY Department
BIG JOE Manufacturing Company
Vernon Blvd.
Wisconsin Dells, Wisconsin

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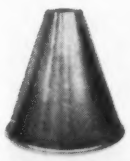
ROTOFORMS

open new horizons for metal shape design

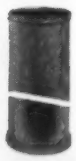
Straight-side cones, straight-wall tubes, curvilinear-wall shapes, and elliptical or hemispherical shapes can now be economically produced by ROTOFORMING from carbon steels, stainless and special alloy steels, as well as aluminum, nickel, copper, molybdenum, magnesium and titanium alloys.

ROTOFORMED shapes range in dimensions from a minimum tube I.D. of 2½" to a maximum diameter of 42". Tube lengths can go up to 100". Steel blanks up to ¾" thick for conical shapes and up to ⅝" for straight-wall tubes can be successfully handled. Both constant and variable wall thicknesses as thin as 1/32" are practical. Extremely close, machine-like tolerances are routine.

STRAIGHT-SIDE ROCKET CONE — Spun with tapered wall from 1020 steel blank; 18" diameter, 1" thick. Inside surface 125 MIF.



STRAIGHT-SIDE MISSILE EXIT CONE — Spun with constant wall thickness from press preformed 1040 steel blank; 29" diameter, ¾" thick.



STRAIGHT-WALL ROCKET TUBE — Spun from 4135 steel tubing (wall thickness ½") reduced to a finished wall .051" thick.

ROTOFORMING gives you all of these many advantages:

- Saves metal
- Minimizes machining and surface finishing
- Increases tensile and yield point
- Improves fatigue strength
- Reveals and rejects hidden metal flaws

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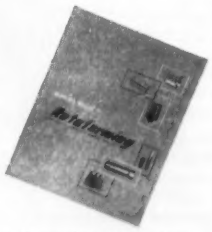
Illustrated and informative Bulletin 500-P2 describes COMMERCIAL's revolutionary new metal forming service ROTOFORMING in detail.



Write Commercial Shearing & Stamping Company, Dept. J-14, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

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MODEL 2RH

MISTIC MIST GENERATOR

- 2 gallon capacity rectangular tank
- 24 gauge lead coated steel
- Sight glass liquid level gauge
- Simple cleaning and filling
- Nozzle holder with 60# pull magnet
- Available with single or multiple outlets

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AETNA MFG. CO. 174 S. York Street Bensenville, Illinois

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Brightboy, the only complete STOCK line of rubber-bonded abrasives, performs many types of work not previously associated with abrasives. Unique rubber-and-abrasive action BURRS, CLEANS, FINISHES, POLISHES, in a single-step operation. Aluminum Oxide and Silicon Carbide grains and textures, grades extra fine to extra coarse, in soft, firm and tough rubber binders.

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- NEW METHOD RECOMMENDATIONS, and name of nearest Brightboy distributor

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95 North 13th St., Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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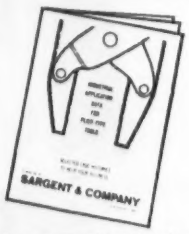
FREE BOOKLET may solve your hand tool problem...



It's yours for the asking: Sargent's new booklet "Industrial Application Data for Plier-Type Tools." Contains detailed case histories on cutting, shaping, crimping, punching and holding problems solved with Sargent precision hand tools. Describes and illustrates Sargent's parallel action, compound hand pliers, punches and special purpose tools many of which are designed on a custom basis. Mail coupon now for your copy.

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Gentlemen: Please send me your new booklet "Industrial Application Data for Plier-Type Tools."

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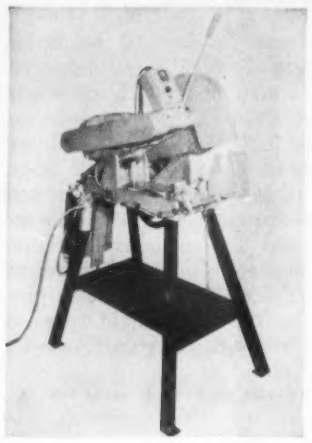
Sargent & Company, New Haven 9, Conn. Dept. 19-D
Manufacturers of quality locks, hardware and tools since 1864.

For more details circle NED-621 D9 on enclosed inquiry slip

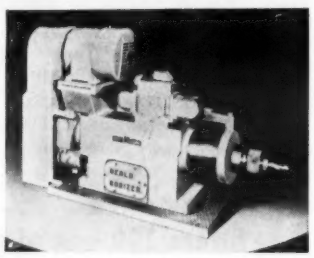
ABRASIVE CUTTING MACHINE now offered with a power feed



Previously available with only manual feed, the No. 14 Speed-Cut abrasive cutting machine is now obtainable with a power head which assures even wheel pressure for uniform cuts. Machine cuts up to 4-in. pipe and shaped stock and up to 1½-in. rod. The V-vise with chain hold-down will grip a variety of shapes and allows ganging. Stand-mounted machine is powered by a 5-hp, three-phase, 60-cycle motor and has front and rear spark arrestors. Wheel stop is adjustable for wheel wear. Made by **Beaver Pipe Tools, Inc.**, Speed-Cut Div., 300 Dana Ave., Warren, Ohio.

For more details circle NED-622 D9 on enclosed inquiry slip

TOOL ROTATING-FEEDING UNIT for drilling, reaming, facing operations in automated setups



Self - contained Borizer unit for rotating and feeding single or multiple tools in automation setups generates its own hydraulic power. It can be used singly or in groups for drilling, reaming, counterboring, chamfering, plunge facing, and similar operations. It will also precision-bore using supported guide bushings.

Unit is particularly suited to single or multiple-spindle operations in sequence by mounting several units horizontally, vertically, or at an angle, either on a single base or along an automated line. Controls can be separate, or integrated with master controls of the automated line. Four sizes have strokes of 8, 10, 12, or 15 in. with thrusts ranging from 9800 to 18,900 lb. Units are obtainable without integral hydraulic pumps. Made by **Heald Machine Co.**, 7 New Bond St., Worcester 6, Mass.

For more details circle NED-623 D9 on enclosed inquiry slip

Instantaneous Heaters

American-Standard, Industrial Div.—Steam inlet is located beyond the tube bundle to prolong tube life in Ross instantaneous heaters, subject of illustrated Bulletin 304.4K1. They have an extra large steam inlet area, seamless copper alloy U-tubes, and removable, pull-through tube bundles. Selection data, charts and piping diagrams are found in its 24 pages.

For more details circle NED-624 D9 on enclosed inquiry slip

NAMES IN THE NEWS!

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Missile Development Centers are among the largest Government Defense users of Produc-Trol for research, production, manpower and other types of scheduling.

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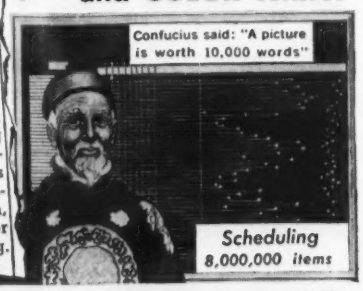
not only schedules, But automatically checks with TIME, LINE and COLOR control



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- Historical record to back it up.
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- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

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For more details circle NED-625 D9 on enclosed inquiry slip

CASTING TO STAMPING saves 55%

Originally this grey iron casting required expensive milling and drilling operations. In 350 lots the piece price was $1.18 plus pattern, milling fixture and drill jig charges.

Converting to a stamping formed from 12 gage sheet steel cut the piece price to 53c *including tooling.* The present stamping is lighter, stronger, better duplicated and improved over-all.

Bulletin F-185 explains this highly efficient, specialized technique for cutting the work load and costs of metal fabricators. Write for it today.

DAYTON ROGERS *Manufacturing Company*
MINNEAPOLIS 7E, MINNESOTA

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We do have one-layer Calsilite insulation for high temperature lines and equipment. Illustrated below is a two-layer application used in special installations.

Modern calcium silicate insulation for use on today's high temperature pipes and vessels. Available in various thicknesses of pipe coverings and blocks.

- Light weight, easy to cut and apply
- Insoluble in water, normal acids and alkalis
- Absorbs moisture without disintegrating
- Constant co-efficient of conductivity

For complete details, write:

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500 Fifth Ave., N. Y. 36, N. Y.
PIONEERS IN CALCIUM SILICATE INSULATION

For more details circle NED-627 D9 on enclosed inquiry slip

Battery-powered magnets offer improved work handling at low cost

Sundstrand battery-operated lift magnets extend the work range of conventional hoists, cranes, and lift trucks without requiring major capital outlays or tying up equipment while making change-overs.

One lift is all that is required even when work moves from one shop area to another, to an outside loading dock, or to yard for storage because the power source moves right along with the work.

Two capacities

Either 2000 or 4000 lb of lifting capacity is provided by two models using 6- or 12-volt automotive-type batteries. Dial indicates need for recharge, usually is handled overnight.

Distributors:

Sundstrand Lift Magnets offer attractive sales opportunities. Investigate. Details on request.

SUNDSTRAND POWER-GRIP
SUNDSTRAND-American BROACH
DIVISION OF SUNDSTRAND MACHINE TOOL CO.
ANN ARBOR, MICHIGAN

For more details circle NED-628 D9 on enclosed inquiry slip

Low Cost . . . Long Lasting

LIGHT, RIGID BOXES

STACK when full, NEST when empty

Delivery, manufacturing and materials handling operations are facilitated with this series of stacking-nesting type tote boxes. They are made of Chem-Board, a rigidized heavy duty corrugated board that is strong, lightweight and durable. Boxes have bail handles of 7-gage steel rod that flip in for stacking, and flip out and down for nesting to minimize storage space. Illustrated boxes measure 19 in. wide, 25 in. long and 13 in. deep. They weigh 9½ lb. Approximately 30 other sizes are available.

CONVOY, INC. Phone GReenwood 7-4569
P. O. Station B, Box 216-N CANTON 6, OHIO

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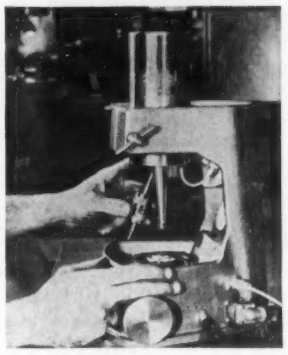
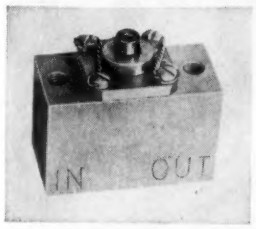
ULTRASONIC DRILL
also slices, engraves, shapes, taps



Shaping of intricate parts to precision tolerances in ceramics, silicon, germanium, tungsten, granite, ferrite, tungsten carbide, quartz, and other materials is possible with the improved Glennite ultrasonic impact-drill. The 100-w piezoelectric unit will also slice, engrave, shape, tap, broach, dice, shave, trepan, and machine. Its automatic tuning control system retunes itself without operator attention. Price is $1100. Made by **Gulton Industries, Inc.**, Vibro-Ceramics Div., 212 Durham Ave., Metuchen, N. J.

▲ For more details circle **NED-632 D9** on enclosed inquiry slip ▲

PRESSURE INDICATOR
detects clogged filters and nozzles



A red button raises into view on this Deltadyne indicator to signal when a differential pressure exceeds a preset value. Operating on differentials as small as 5 psi, indicator can be used on systems involving service pressures up to 5000 psi. It will detect clogged filters, spray nozzles, and injection nozzles. It will also report excessive pressure drop in any part of a fluid or hydraulic system, and it will check flow when used with an orifice in a line. Made by **Aircraft Porous Media, Inc.**, 30 Sea Cliff Ave., Glen Cove, N. Y.

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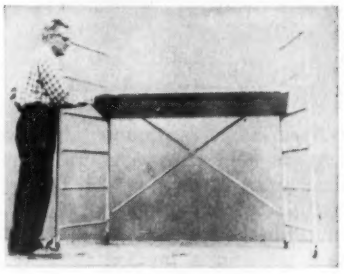
SMALL SCAFFOLD
offered in two standard sizes



Reddi-Roll one piece tubular steel scaffold is usable for painting, maintenance, and other operations. It has a plywood adjustable-height platform and folds flat for easy handling and storage. It is erected by placing the notched platform at the desired height, then swinging the sides inward. Two standard sizes are 2 x 4 x 4 ft and 2½ x 5 x 6 ft. Both have locking casters. Made by **Superior Scaffold Co.**, 5624 Bankfield Ave., Culver City, Calif.

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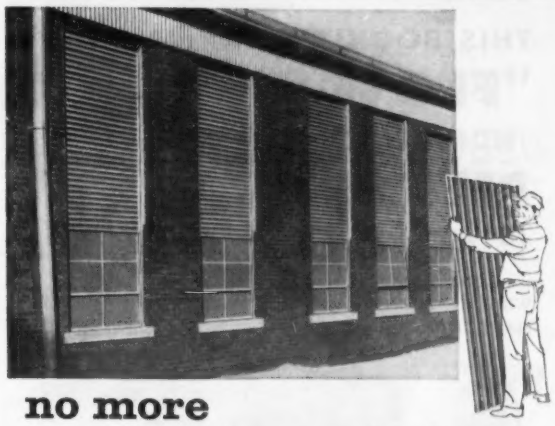

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Rockwell has glazed with Structoglas

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❶ **Automatic Water Separator.** Removes all of condensate, all the time. Traps dirt particles to prevent damage to sensitive airline devices. Handles all airline pressure up to 200 PSI and flow volume from 5 to 50 CFM. *Easily accessible filter unscrews by hand for simplest possible cleaning . . . just one piece . . . no tools required.*

❷ **New Air Regulator with Gauge.** Assures accurately controlled air—prevents erratic operation and damage to equipment. Design permits inlet pressures of 250 PSI—adjustments up to 125 PSI. Excess air pressure "bleeds off" within regulator, instantly.

❸ **Automatic Airline Lubricator.** Compensating ball valve design gives uniform mixture regardless of air pressure and volume. Oil and air mixture proportionately constant. Reservoir easily filled at any time during operation. Nine-ounce capacity.

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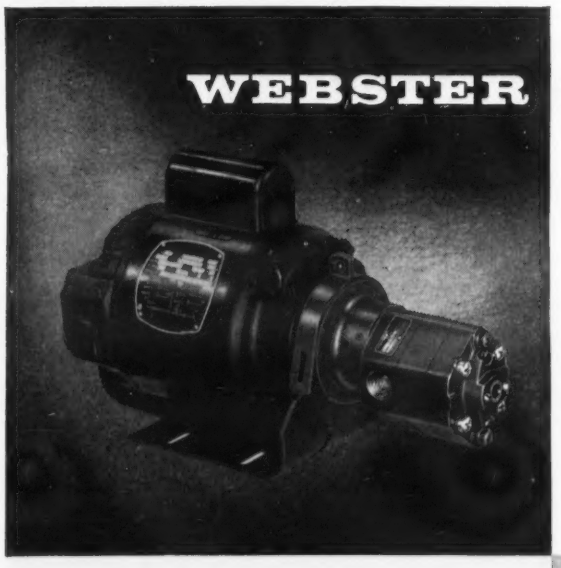

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Capacities to 575 GPH

This is the way to handle all furnace oils, especially heavy no. 5 and 6 grades — with an extra measure of dependability required for commercial and industrial applications. Webster supply pumps are motor equipped, provide a range of capacities from 15 GPH to 575 GPH. Heavy oil models have extra large ports to transfer initially cold, heavy oils without restriction.

Webster pumps are compact, easy to install. Require less plumbing. Engineering bulletins give complete specifications and mounting dimensions.

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WEBSTER ELECTRIC
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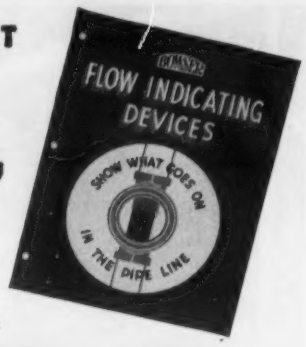

...CONTAINS DATA ON WIDE SELECTION OF FLOW DEVICES SUCH AS:

Fig. 54A Flow Sight — Fig. 816 Teleflo Indicator — Fig. 811 Flow Indicator

Plant and product engineers have relied on Bowser, liquid handling specialists since 1885, for prompt service. For sight glasses in single or double-window types, gravity or pressure models; or for electric or mechanical indicators . . . and a full line of sight feed oilers.

PRODUCT OF BOWSER RESEARCH — WRITE FOR FLOW DEVICES BOOKLET — Contains Complete Specifications

BOWSER, INC., MARKETING DIVISION, FT. WAYNE, IND.

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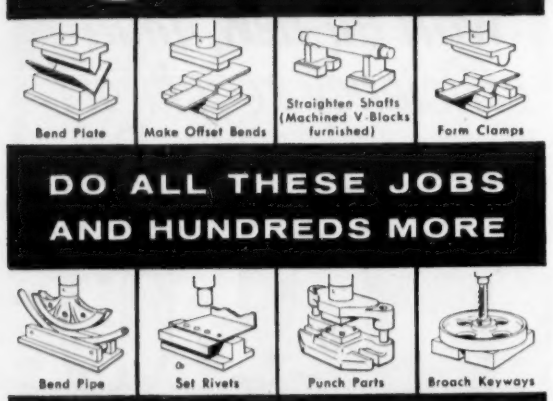
KRW SHOP PRESSES



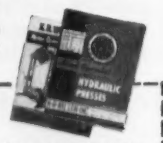
DO ALL THESE JOBS AND HUNDREDS MORE

A "DO-EVERYTHING" MACHINE: This KRW 25-ton Hand-Operated Hydraulic Press will do a multitude of jobs that need a "squeeze" . . . *quickly, accurately and profitably.* In many cases, dies can be readily improvised from scrap steel. Changing from one setup to another usually takes only a minute or two.

EASY TO OPERATE. The capstan hand wheel brings the ram rapidly down to the work. With the pump handle positioned at a convenient working height, it's easy to keep an eye on the pressure gage as well as the work.

PRESS WITHIN A PRESS. By using the capstan hand wheel to apply ram pressure, you also can operate this 25-ton hydraulic press as a 3-ton mechanical press. *It's a KRW exclusive!*

MAIL THIS COUPON for complete details on KRW Hand-Operated and Motor-Driven Shop Presses (Capacities: 25 thru 150 tons).



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1228 MAIN ST., ARCADE, N. Y.
SEND your Hand-Operated and Motor-Driven Shop Press Bulletins to us, without obligation.

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COMPANY _____
STREET _____
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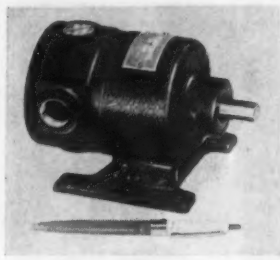
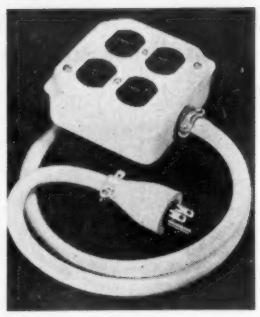
SHAFT FAILURE INDICATOR offered in 10:1, 5:1, 2:1 ratios



Dazig 8000 Series shaft failure indicator provides electrical signal control when driven by direct coupling to shafts turning at less than 10 rpm or as slowly as 2 rpm. The control detects shaft rotation failure or a discrepancy in speed by electrical indication. Internally geared unit is offered in 10:1, 5:1, and 2:1 ratios. It is self-lubricated and has single-pole double-throw snap-action contacts rated 10 amp at 125, 250, or 460 v ac. Made by **Winterburn Mfg. Co.**, 11 Whittemore St., Putnam, Conn.

For more details circle NED-639 D9 on enclosed inquiry slip

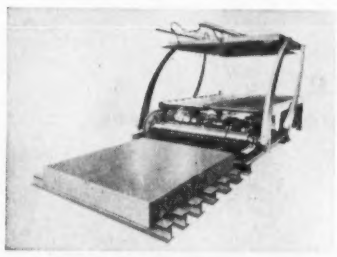
ELECTRICAL OUTLET BOX accommodates four power tools



As many as four power tools or lights can be plugged into this heavy-duty outlet box at the point of use. The metal box is covered with yellow neoprene which is highly dielectric and oil and chemical resistant. The No. 14 cable is furnished in 25 or 50-ft lengths. Six different outlet receptacles are available. Made by **Ericson Mfg. Co.**, 1660 Hayden Ave., Cleveland 12, Ohio.

For more details circle NED-640 D9 on enclosed inquiry slip

PLATE & SHEET FEEDER handles 600-lb 8 x 12-ft plate



This one-man operated plate and sheet feeder will pick up metal or other sheets from a stack, one at a time, and place them on a table of driven rolls for accurate feeding into a press. Operation can be either continuous at a fixed cycle, or intermittent as the press operator directs. Vacuum lifting mechanism is mounted on four pivoting arms. Frame is fitted with a probe to adjust arm swing to the diminishing height of the stack. Plate is carried to roll feed table in a horizontal plane. On the table, it is automatically aligned with the dies by side guide rollers. Machine will handle up to 8 x 12-ft sheets weighing up to 600 lb on a one-per-minute cycle. Made by **Herr Equipment Corp.**, 1201 Vine St., Warren, Ohio.

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CHOOSE FROM 75 TYPES AND SIZES

Abart SPEED REDUCERS

Compact, economical, trouble-free Abart power packages fill any speed reduction need. Any desired shaft arrangement—worm, spur or combination models—fractional to over 400 hp. ratings—single or double reduction—ratios to 10,000 to 1.

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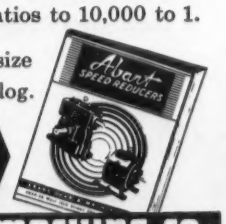

ABART GEAR and MACHINE CO.
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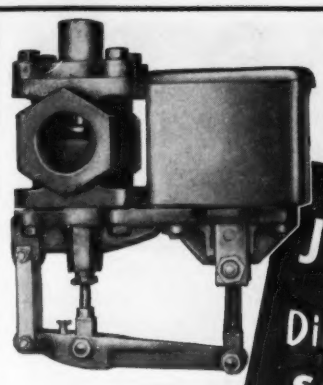

OUTSTANDING FOR STEAM SERVICE

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Stainless steel valve and seat. Sizes: ½" to 3". Write for facts.

Job after job, these Johnson Direct Acting Solenoid Valves are proving an ideal answer for service on steam lines. Their design removes the solenoid proper from the heat of the line, permits a leverage system with ample power to open against differential pressures up to 150 lbs. There are no pilot valves or auxiliary pistons, and construction is really heavy duty throughout. You will find their inherent simplicity and instant response will solve a lot of operating problems like no other valve can.

THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Mich.

For more details circle NED-643 D9 on enclosed inquiry slip

SPACE-SAVER MOTORS

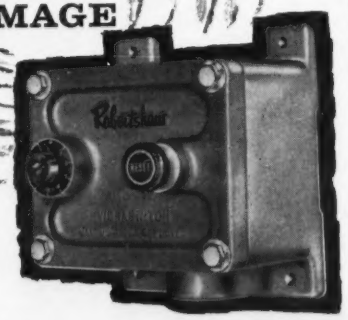
New bulletin gives uses and characteristics.

Peerless Space-Saver Motors in ratings from ½ to 10 HP are described in Bulletin SP-1. Peerless Space-Savers are available in drip-proof and enclosed fan-cooled designs which meet all NEMA performance standards. Bearings are prelubricated, double-shielded type. Peerless engineers will work with you on any special problems involving torque, mountings, enclosures, duty or insulation. Peerless is a specialist in meeting unusual requirements for OEM applications. Close cooperation with your engineers assures development of the one motor that powers your product best. Write for Space-Saver Bulletin SP-1.

ELECTRIC MOTOR DIVISION
THE Peerless Electric® COMPANY
FANS · BLOWERS · MOTORS
1527 W. MARKET ST. · WARREN, OHIO

For more details circle NED-644 D9 on enclosed inquiry slip

END VIBRATION DAMAGE



Robertshaw's Vibraswitch Malfunction Detector protects machinery from costly damage due to excessive vibration. Instantly sensing beginning of destructive vibration caused by *failing bearings, bent shafts, broken blades, overspeeding,* Vibraswitch actuates an alarm or shuts down malfunctioning equipment.

Available in various models, Vibraswitch may be easily installed on large motors, fans, compressors, pumps, other rotating or reciprocating machinery. Write for Technical Bulletin RF-586. **Aeronautical and Instrument Div., Robertshaw-Fulton Controls Company, Santa Ana Freeway at Euclid Avenue, Anaheim, California.**

For more details circle NED-645 D9 on enclosed inquiry slip

Compact, economical, safe. All revolving parts are covered. Instantly adjustable. Shreds ⅛" to ⅜". Designed for continuous and trouble-free service.

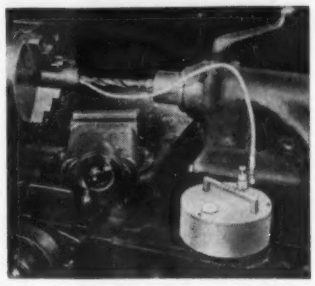
Quickly shreds newspapers, magazines, waste paper, cellophane, tissue, corrugated cartons, wax paper, etc. into uniform resilient 1/8" to 3/8" strands, ideal for packaging purposes. Especially adapted to shredding confidential records, blue prints or any classified material. Send for descriptive bulletin S1255. Names of users near you available on request.

FREE TRIAL! Operate a SHRED ALL for 30 days — If not satisfied — return — owe nothing.

UNIVERSAL SHREDDER CO.
2934 Bay Road — Saginaw, Michigan

▲ For more details circle NED-646 D9 on enclosed inquiry slip ▲

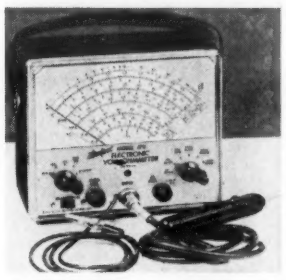
CUTTING TOOL LUBRICATOR dispenses through flexible hose



Precision oil pump controls the amount and pressure of the cutting oil flow from the Squirt reservoir type pressure lubricator for "one touch" lubrication of cutting tools. Its heavy cast iron base holds it in position on the machine. A flexible metal hose is positioned to deliver the oil at the tool cutting edge in drilling, tapping, and pipe threading operations. Made by **C-B Tool Co.**, Wabank Road, Lancaster, Pa.

▲ For more details circle NED-648 D9 on enclosed inquiry slip ▲

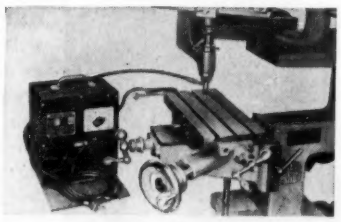
ELECTRONIC VOLT-OHMMETER has range to check transistor bias



Large 7-in. meter increases readability of this electronic volt-ohmmeter. The instrument has a high sensitivity 0-0.5-v dc range for use in transistor bias tests. Its ranges are 0-1500 v dc and ac rms and 0-4000 v peak-to-peak. Readability is excellent from 0.2 ohm to 1000 megohms, and frequency response is 30 cps to 2.5 megacycles. An ac-ohms-dc single unit probe eliminates the inconvenience of individual leads. Made by **Hickok Electrical Instrument Co.**, 10674 Dupont Ave., Cleveland 8, Ohio.

▲ For more details circle NED-649 D9 on enclosed inquiry slip ▲

ELECTRICAL MARKER pantograph unit for use on metals



Ten-stage transformer and an electrical marking spindle in place of the usual rotary cutter enable the Model 2D-4 Panto engraver to mark on steel, iron, tungsten carbide, or any ferrous metal of any degree of hardness. Pantographic unit rapidly marks sizes, part or serial numbers, symbols, code numbers, etc., on hardened tools, gages, machine parts, or other items where engraving, stamping, or etching is impossible or impractical. Electrical marking burns a permanent black mark into a machined or polished surface. A hand-marking pencil is also offered. Made by **H. P. Preis Engraving Machine Co.**, 252 Industrial Branch, U. S. Highway 22, Hillside, N. J.

▲ For more details circle NED-650 D9 on enclosed inquiry slip ▲

Webster DIRECT READING
HYDRAULIC TYPE
FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

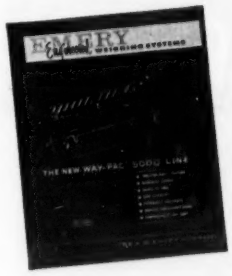
Webster INSTRUMENT, INC.
Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

▲ For more details circle NED-652 D9 on enclosed inquiry slip ▲

now...

EMERY ENGINEERED WEIGHING SYSTEMS IN THE LOWER LOAD RANGES

The WAY-PAC* line of Emery Hydraulic Load Cells in the 1000 lb. and the 5000 lb. capacities offers you more advantages per dollar spent than any load weighing device available today.



Send for Bulletins 582 and 591 to get up-to-the-minute information on this new equipment for industrial weighing and force measurement. Address your letter to The A. H. Emery Co., New Canaan, Conn.

*Trade Mark

EMERY Engineered WEIGHING SYSTEMS

▲ For more details circle NED-653 D9 on enclosed inquiry slip ▲

HI-EFFICIENCY

1.7 3.0 microns

THERM-X-RED†

IMMERSION HEATERS

Featuring

VAPO-VENT†
VAPOR and LIQUID TIGHT VENTING ASSEMBLY ON ALL QUARTZ HEATERS

and

NEO-TITE†
VAPOR and LIQUID TIGHT ASSEMBLY ON ALL METAL HEATERS

Presenting The NEW REPLACEABLE HEATING ELEMENT

THERM-X-RED, a superior line of immersion heaters, presented by N.J. THERMEX, introduces a new innovation of vapor venting to eliminate internal explosion in Quartz heaters. The VAPO-VENT assembly provides a venting system for expanding gases, a completely liquid sealed head assembly and an extremely versatile unit which permits field repair with standard replacement. These exclusive THERM-X-RED features are further aided by the NEO-TITE vapor and liquid tight assembly which protects the heating elements in both Quartz and Steel units. Here at last, is a thoroughly versatile unit permitting even accidental total immersion in highly corrosive chemicals with no harm to the equipment.

These and many more features are fully detailed in our latest catalog available on request. Models in standard, thermostatic and remote control thermostatic units are available in Steel, Stainless Steel and Quartz construction.

† Trade Mark
*ON QUARTZ HEATERS

N. J. THERMEX COMPANY, INC.
535 - 533
BERGEN ST., HARRISON, N. J.

▲ For more details circle NED-647 D9 on enclosed inquiry slip ▲

TO INCREASE PRESS EFFICIENCY

MINSTER® CLUTCHES FOR PRESS CONVERSIONS

MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

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SAFETY GRIP-STRUT

Patented

STAIR TREADS

for greater safety • for greater economy

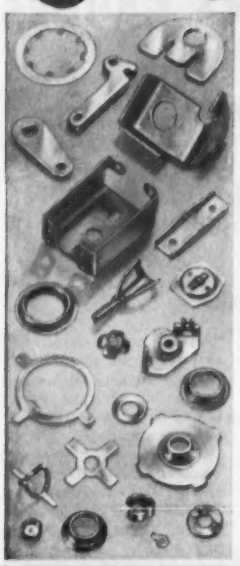
Use Safety GRIP-STRUT stair treads throughout your plant, on your manufactured products for greater anti-skid protection. All one piece of material with open area in excess of 55% total area, easy to flush clean, greater strength with less weight, in steel or aluminum.

Available at Globe Distributors in all principal cities. Consult yellow pages in your phone book under "stair treads."

PRODUCTS DIVISION
THE GLOBE COMPANY
4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

▲ For more details circle NED-654 D9 on enclosed inquiry slip ▲

Quadriga® means Quality metal stampings



Quadriga specializes in the manufacture of custom-made stampings to close tolerances. Using the most advanced machinery and methods, Quadriga can provide the *exact* stamping required to fill your application—any metal, medium to high quantity runs. Depth of draw to 3½ inches—press. capacities to 150 tons.

Quadriga also manufactures custom-made flat, friction, tension and finishing washers as well as wire terminals in thousands of special sizes and shapes.

Send b/p or specs for estimate. Request catalog on your company letterhead.

® Reg. U. S. Pat. Off.

THE Quadriga MFG. CO.

221 WEST GRAND AVE. • CHICAGO 10, ILL.

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When you get your sample, examine it closely . . . you'll be looking at the answer to many of your machinery mounting problems.

You stop machine creeping without bolting, stop vibration and noise transmission with New Elasto-Rib. The all directional waffle-grip neoprene and resilient cork combine to form a non-slip cushion.

New Elasto-Rib is available in sheets; or with a load-distributing steel plate; or made up into Leveling Dampers. We'll include complete data with your sample. Write today, mentioning Bulletin 42.

THE KORFUND COMPANY, INC.

KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK

48-35P Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

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FIGHTS FIRES 4 WAYS

ROCKWOOD PORTABLE TURRET NOZZLE

Discharges:	1. FogFOAM 2. Solid FOAM Stream 3. WaterFOG 4. Solid Water Stream

You can be sure of maximum portability *and* versatility under all fire conditions with the Rockwood Portable Turret Nozzle. Like all Rockwood Turret Nozzles, it provides 4 types of discharge, all easily adjustable on the fire line. In addition to the Portable Nozzle, Rockwood offers 3 types of Turret Control for use on mobile units: (1) Hydraulic Remote Control (2) Manual Remote Control and (3) Direct Manual Control. You'll find Rockwood Turrets on fire and crash rescue trucks, on fire boats and on hose lines . . . guarding airports, refineries, chemical and industrial plants. They're your best choice for maximum protection. For complete specifications and prices write Rockwood Sprinkler Company, 1370 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

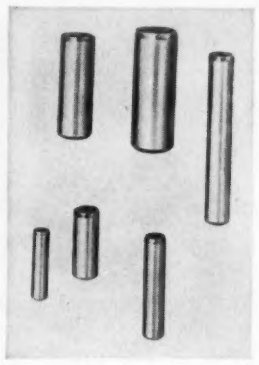
▲ For more details circle **NED-668 D9** on enclosed inquiry slip ▲

SMALL SHOP CAR
in one and two passenger models

Speeds of up to 11 mph are possible with this Sensation T-Bird which is driven by a 2-hp Briggs & Stratton gasoline engine. Equipped with proper body or accessories, it can be used for shop transportation, deliveries, light hauling or towing, and sweeping. It has ball bearing semipneumatic wheels, foot throttle, brake-drive lever, and large steering wheel. Also available is two-passenger model priced at $198. Made by **Sensation Mower, Inc.**, 7577 Burlington St., Ralston, Nebr.

▲ For more details circle **NED-669 D9** on enclosed inquiry slip ▲

DOWEL PINS
sizes from 1/8 to 1 in.



Blue Devil heat treated alloy steel dowel pins for the machine tool and die industry have a surface hardness of 60-64 Rockwell and a microinch finish of 8 rms. Sizes from 1/8 to 1 in. are ground 0.0002 in. over listed diameter for press fit between mating parts. "Oversize" pins are ground 0.001 in. over listed diameter for repair work. Tolerances are within ±0.0001 in. Made by **Safety Socket Screw Co.**, 6501 N. Avondale Ave., Chicago 31, Ill.

▲ For more details circle **NED-670 D9** on enclosed inquiry slip ▲

AIR LINE FILTER
removes 0.3 micron particles

At least 99 per cent of particles 0.3 micron and larger are removed from compressed air and gas lines by this Air Line Ultra Filter. Unit is primarily designed for use in pneumatic control, instrument air lines, paint spray applications, and purification of other compressed gases. It arrests dusts, mists, fumes and smoke, as well as airborne bacteria. Accessory cartridges for special chemical gases can be added to the filter in the field. Filter operates at up to 250° F at 125 psi and handles 25 scfm. Higher pressure units are available. Initial pressure drop is 0.8 psi. Made by **Mine Safety Appliances Co.**, 220 N. Braddock Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-671 D9** on enclosed inquiry slip ▲

For extra protection, extra wear...

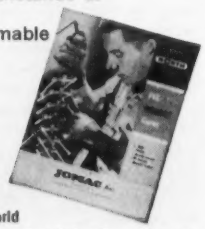
NORTH PVC GLOVES

Good reasons!

- **Outwear** other types two to five times
- **Have** excellent pliability, afford extra comfort and dexterity
- **Chemical-resistant** PVC compound withstands almost all acids, alkalis and solvents
- **Nonaging**, nonoxidizing and nonflammable

FREE Glove Booklet!

Write for your copy today



JOMAC *Inc.*

Dept. G, Philadelphia 38, Pa.

Associated Dealers and Distributors Throughout the World

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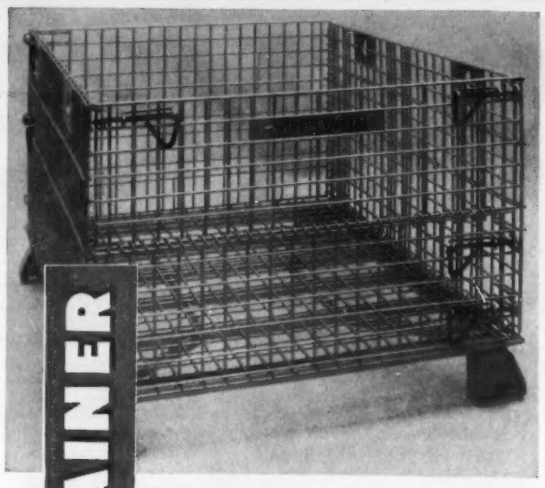

WIRE-TAINER

STORING ★ HANDLING ★ SHIPPING

- Virtually indestructible—electro-welded steel rod construction
- Saves money coming and going—easy to lift and stack, folds flat to save on return trips
- One and two-ton capacities
- Side or end openings
- Available with eyes for crane lifting, increased side heights, caster plates and casters, horizontal and vertical dividers

FREE LITERATURE describing all **WIRE-TAINER** advantages. Drop us a line.

SPRINGPORT STEEL PRODUCTS COMPANY

Springport, Michigan

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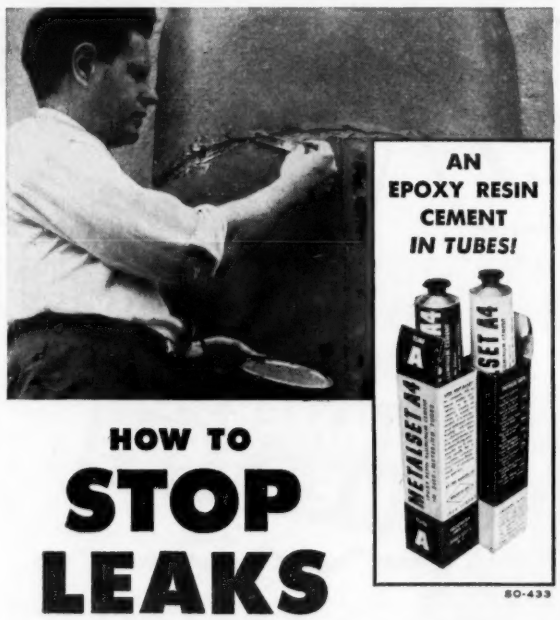


HOW TO STOP LEAKS with METALSET A4

METALSET makes revolutionary epoxy resin easy to mix and use. Just squeeze equal lengths from each tube . . . and mix. You use only the amount you need for one job. The rest is there for the future job. METALSET ends messy measuring.

Epoxy resin cements contain no solvent to cause shrinkage, or to harden in the tube. You make only one application, however thick. It is water and oilproof, chemically resistant. Excellent adhesion to iron, steel, and aluminum. And METALSET is flexibilized, to resist thermal and mechanical shock.

Advantages of METALSET A4

- Adhesion: to most metals, glass, wood, ceramics
- Hard: can be machined by any conventional method
- Stable: waterproof, oilproof, resistant to alkalis and acids
- Non-flammable
- Made with minimum-toxicity materials only

TYPICAL APPLICATIONS

- Stops leaks in pipes, tanks, concrete
- Sets loose parts tight
- Smooths and fills dents
- Caulks windows, roof fixtures, sidewalk elevators

METALSET in twin, self-metering tubes: only a little more effort to get the best!

METALSET®

Made by Smooth-On Manufacturing Company

ESTABLISHED IN 1895

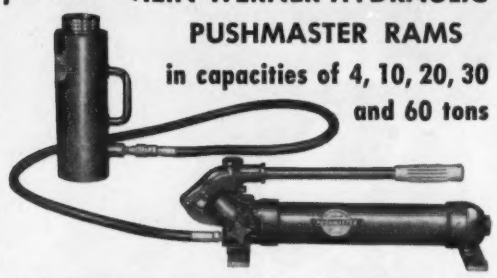
572 Communipaw Avenue, Jersey City 4, N. J.

METALSET IS A REGISTERED TRADE-MARK, U. S. PATENT OFFICE

▲ For more details circle **NED-674 D9** on enclosed inquiry slip ▲

save valuable production time and maintenance manpower...

powerful HEIN-WERNER HYDRAULIC PUSHMASTER RAMS in capacities of 4, 10, 20, 30 and 60 tons



Hein-Werner Hydraulic PUSHMASTER Rams provide compact, controlled power anywhere needed to handle tough lifting, moving, pressing, ejecting, clamping, straightening, pushing or bending jobs. Write today for free copy of detailed PUSHMASTER catalog No. 25, or see your industrial distributor.

Hein-Werner also supplies industry with a full line of hydraulic jacks in capacities from 1½ to 100 tons; portable TAL BENDERS for smooth, uniform material bending in ranges from ⅜" to 8"; and "Push and Pull" Hydraulic Jacks and Attachments in 4, 10 and 20 tons capacity.

Hein-Werner CORPORATION WAUKESHA, WISCONSIN

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handy is the word for TOLEDO's

DROP HEAD RACHET THREADERS

IDEAL FOR CLOSE CORNERS, TIRESOME OVERHEAD WORK

For a real money-maker, you can't beat this handy TOLEDO. Use it anywhere . . . threads are cut quickly and accurately with only a 30° swing of the easy-grip handle — lightweight for easy overhead work, too. A wide choice of dies that can be changed in seconds are available for all 3 models. Check your supplier soon. He has all 3 — No. 00, No. 11, No. 12 — from ⅛" to 2".

Sold through your favorite distributor

BUILDERS OF THE WORLD'S FINEST PIPE TOOLS TOLEDO® PIPE THREADERS • PIPE WRENCHES • PIPE MACHINES

Quality-Checked

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO 4, OHIO

▲ For more details circle NED-676 D9 on enclosed inquiry slip ▲

NOW! Adjustable Diameter and Open THOMSON BALL BUSHINGS

The BALL Bearing for all your LINEAR MOTIONS

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of ⅛" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. G, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings . . . Sleeve Bearings of DuPont NYLON

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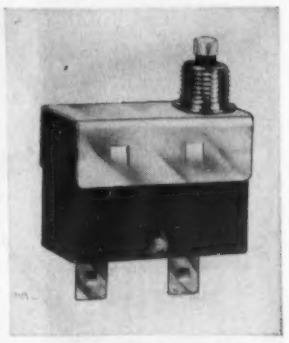
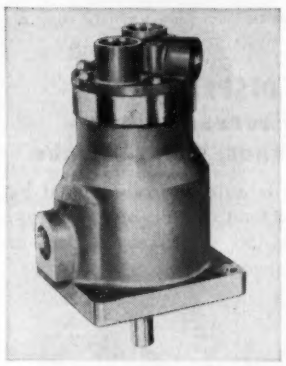
CIRCUIT BREAKER 5 to 25-amp indicating unit



Primary function of the Model 8150 Klixon circuit breaker is remote overcurrent protection of 110-v ac motors rated up to ½ hp. It is offered with ratings at intervals from 5 to 25 amp. To save time in locating a tripped circuit, it has an indicating band. The 1-oz unit has double-break contacts and cannot be held closed if an overload condition exists. Applications include heating and air conditioning equipment, appliances, and battery chargers. Made by **Metals & Controls Corp.**, Spencer Div., 1500 Forest St., Attleboro, Mass.

▲ For more details circle NED-678 D9 on enclosed inquiry slip ▲

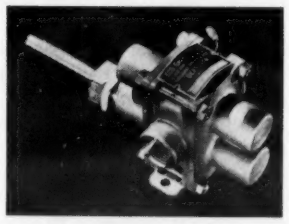
HYDRAULIC PUMP/MOTOR develops 11 hp at 4400 rpm



Model P-975 high temperature hydraulic motor and/or pump is primarily used to drive a fuel booster pump, but can be used as a pump in a closed hydraulic circuit. Overall efficiency remains the same in either function. With a 7.3-gpm flow, motor develops 11 hp at 4400 rpm with a 3000-psi differential. It is operable in fluid temperatures from −65 to 450° F. Unit is fabricated from high temperature stainless and tool steel by **Lear, Inc.**, Lear-Romec Div., Abbe Road, Elyria, Ohio.

▲ For more details circle NED-679 D9 on enclosed inquiry slip ▲

ZIRCONIUM ALLOY PUMP resists hot hydrochloric acid



Flows up to 10 gpm are offered in the 400 Series Gearchem pumps which are made from zirconium alloy containing hafnium. Pumps are designed for process services requiring resistance to such hot corrosives as hydrochloric acid at temperatures up to 300° F. Gears and bearings in the pumps are chemically impervious Teflon. Pumps are self-compensating for wear and for thermal expansion and contraction. Made by **Eco Engineering Co.**, 12 New York Ave., Newark 1, N. J.

▲ For more details circle NED-680 D9 on enclosed inquiry slip ▲

HIGH SPEED NEW pneu-matic TAPPER

Makes Any Drill Press a High Speed Tapping Unit!

Built-In Air Feed
Fits Any Drill Press
Precise Depth Control
Adjustable Torque Control
Uses Shop Air Pressure

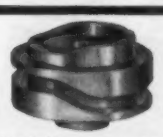
The Commander PNEUMATIC Tapper is a ruggedly built, high speed automatic or semi-automatic tapping unit with air feed and Adjustable Torque Control. Spindle approach and automatic control of forward and reverse tap rotation may be set up and interlocked in tapping cycles and speeds to meet any specific job condition. Adjustable depth control assures precise repetitive tapping depth. Precision spindle drive permits accurate tapping, even on older drill presses. Handles taps from #0 to ¾"-16.

The Commander Full Line Catalog has complete details. *Write for it today.*

Commander MFG. CO.
4220 W. KINZIE STREET • CHICAGO 24, ILLINOIS

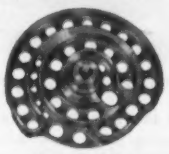
▲ For more details circle NED-681 D9 on enclosed inquiry slip ▲

PRECISION CAMS and CAMSHAFTS
All Types . . . Experimental and Production



Special Drum Type Cam

TWO AND THREE DIMENSIONAL CAMS for Ballistic, Computer and Instrument Use—Milled or ground to ± .0001" tolerance



Face Type Cam

FACE AND CYLINDRICAL CAMS milled or ground to ± .0002" tolerance

CAMSHAFTS Aircraft, Automotive, Diesel Marine, Fuel Injection

Camshaft for Internal Combustion Engine

EONIC Inc. Engineers of Precision

Write for catalog and additional information

459 E. Hollywood • Detroit 3, Michigan

▲ For more details circle NED-682 D9 on enclosed inquiry slip ▲

dependable

ANCHOR CONVEYOR TROLLEYS

Engineered for longer life and greater economy, ANCHOR Improved Conveyor trolleys are backed by 30 years of conveyor experience.

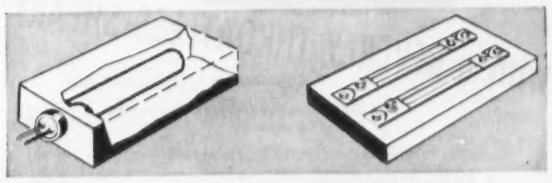
These trolleys are interchangeable with other leading makes, have protected lubrication fittings, baffle type grease seals, hardened and ground races, and caged ball bearings. Write for Bulletin 56-2.

ANCHOR STEEL & CONVEYOR CO.
6906 KINGSLEY AVE. DEARBORN, MICHIGAN

▲ For more details circle NED-683 D9 on enclosed inquiry slip ▲

For your product or process

A complete line of General Electric heaters for surface heating applications



Ideal for products or processes requiring either "spot" heat or evenly distributed heat General Electric heaters help you:

Save heat: G-E heaters frequently may be cast into metal parts or inserted in holes so that heat is localized at the point of need. Heat losses around the sides and through pipes are minimized. Working conditions are more comfortable.

Reduce fire hazards: Safer, quicker electric heat eliminates danger of open flame; inconvenience of smoke and fumes.

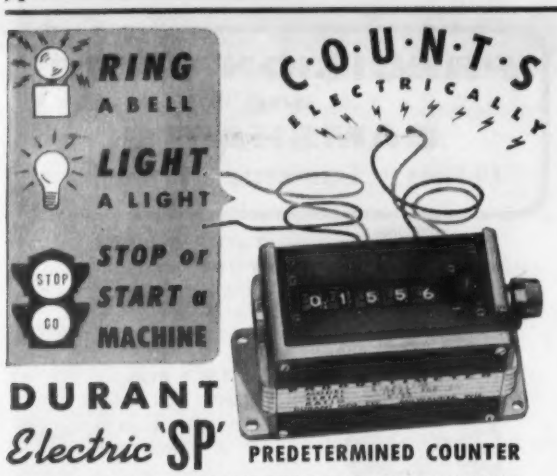
Get accurate control: To give you close heat regulation for changing conditions, precise thermostat controls are available.

FREE BULLETINS

For more information, write Section 723-31, General Electric Company, Schenectady 5, N. Y., and ask for GEA-6146, SURFACE HEATING SELECTOR GUIDE, and GEC-1005, CATALOG OF GENERAL ELECTRIC HEATERS AND DEVICES.

GENERAL ELECTRIC

▲ For more details circle NED-684 D9 on enclosed inquiry slip ▲



DURANT Electric 'SP' PREDETERMINED COUNTER

(COUNTS ELECTRICALLY and CLOSES SWITCH AT END OF PRE-SET COUNT)

Eliminates costly over-runs or time consuming under-runs. Actuated by Photo Electric Cell, Tube, Relay, or Contact Switch. Counter can be located where desired. Predetermined count may be set at any figure to 99,999. Hundreds of applications in all phases of production and instrument work.

SMALL • COMPACT • RUGGED • FAST • ACCURATE

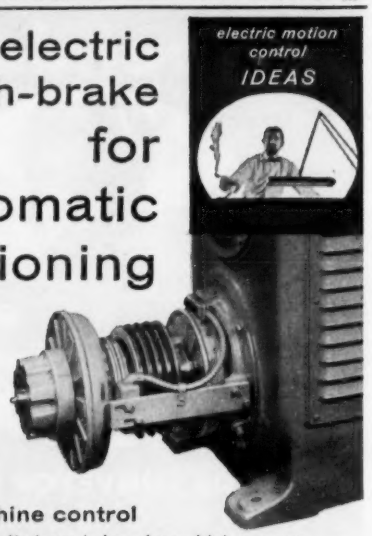
DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis.
22 Thurbers Ave. Providence 5, R. I.
Representatives in Principal Cities

Send for Catalog No. 56

PRODUCTIMETERS SINCE 1879 Count Everything

▲ For more details circle NED-685 D9 on enclosed inquiry slip ▲

electric clutch-brake for automatic positioning



simplifies machine control

You may be able to eliminate index plates, high-pressure clamping, and other costly devices that normally go with automatic positioning. With an electric clutch-brake to control the drive, your machine can be positioned automatically using almost any mode of control from electric eyes to punched tape. Direct electrical operation simplifies design and reduces equipment costs. Lightning-fast engagement in any position when called for by the controller permits accuracy well within the range of most work. Write for Catalog No. 6292.

WARNER Warner Electric Brake & Clutch Co.
Beloit, Wisconsin

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Cut ANY Shape in Metal...

with a BEVERLY THROATLESS SHEAR!

- Capacities to 3/16" in mild steel
- Make clean, knurl-free cuts in any metal to capacity
- High Carbon High-Chrome Blades
- Built to last a lifetime

Here's What a Beverly Can Do!
Cuts made in 18 ga. metal with Model B-1

Beverly Shears are the most versatile metal shearing tools you can use. Unique shoulder design permits any cut . . . rack and pinion gives great power with little effort. Alloy steel body for maximum rigidity and strength. Made in 4 models.

Model B-3 with Ball Bearing Hold Down

Write for illustrated circular —or see your Beverly Distributor.

Beverly SHEAR MFG. CO.
3016 W. 111th Street Chicago 43, Ill.

▲ For more details circle NED-687 D9 on enclosed inquiry slip ▲

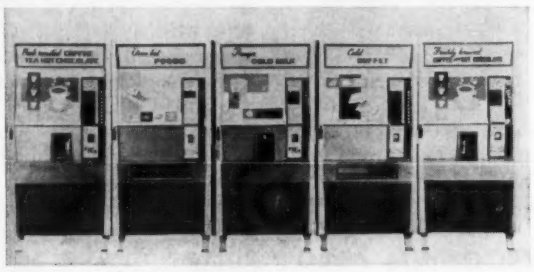
ROLL-UP PROJECTION SCREEN has lenticular Optiglow surface

Space - saving convenience of a roll-up wall screen is combined with the wide angle viewing advantages of a lenticular surface in the Educator Wallmaster projection screen. Surface affords 100-degree viewing in both darkened and normally lighted rooms. Stretch bar which clicks into lock bracket behind the screen assures correct screen tautness for proper picture clarity and brilliance. Rolled up when not in use, unit frees valuable wall space. Case is suspended from special mounting brackets supplied with each unit. All-metal roller and a safety roller lock prevent screen from being pulled beyond the correct picture size. Available sizes are 40 x 40 and 50 x 50 in. Made by **Radiant Mfg. Corp.**, Box 5640, Chicago 80, Ill.

▲ For more details circle NED-688 D9 on enclosed inquiry slip ▲

AUTOMATIC FOOD DISPENSERS five-unit battery serves up hot platters, sandwiches, soups, drinks

Selection of complete meals is automatically served by this battery of coin-operated food dispensing machines. The hot platter unit cooks 50 meals at a time in

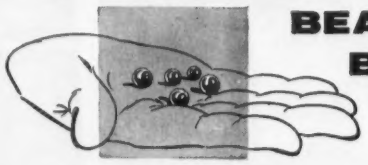


aluminum containers and dispenses them individually. Hot platters come in 32 combinations, each with meat or fish and two vegetables. Other four machines balance the service off with cold platters, sandwiches, soup, pastries, milk and milk shakes in cups, as well as coffee, tea, and hot chocolate.

Supplied in full banks as shown, or in individual units, machines reportedly encourage employees to "eat in" and assure longer actual "sit down" time with quick service. All containers, trays, and eating utensils are disposable. Built-in refrigeration keeps food frozen until cooking time or at appropriate storage temperatures. Units stand 78 in. high, 30 or 35 in. deep, and 35 in. wide. They are complete with coin-changing and coin-reject mechanisms. Marketed by **Rudd-Melikian, Inc.**, Hatboro, Pa.

▲ For more details circle NED-689 D9 on enclosed inquiry slip ▲

Abbott BEARING BALLS



adaptable INDUSTRY WIDE

ABBOTT carbon steel bearing balls—high quality, deep hardened, scientifically tempered—perform reliably in a wide variety of applications. They are crush resistant and efficient under high load factors . . . shock resistant and free from stresses which cause distortion of sphericity and size. Typical uses range from toys, instruments and small tools to appliances, conveyors, and large computers.
And for fifty years Abbott consistently has offered wide choice, high quality, fast service.

Write for complete information.

a HALF century of WHOLE service to industry

THE ABBOTT BALL COMPANY
RAILROAD AVE., WEST HARTFORD 10, CONN.

▲ For more details circle NED-690 D9 on enclosed inquiry slip ▲

SNAP IT SEE IT

AO Spencer Picture-in-a-minute Photomicrography

When you use the AO Spencer Photomicrographic Camera equipped with the Polaroid Land Camera back, permanent photographs are ready in just 60 seconds. A coupled system lets you shoot what you see . . . quickly and easily. (Here, the No. 682G Camera is used with the new AO Metalstar Metallurgical Microscope . . . an ideal combination). In addition to the Polaroid Land Camera back, you have a choice of 4 other readily interchangeable backs. Write for full information.

American Optical Company
SPENCER Instrument Division • Buffalo 15, New York

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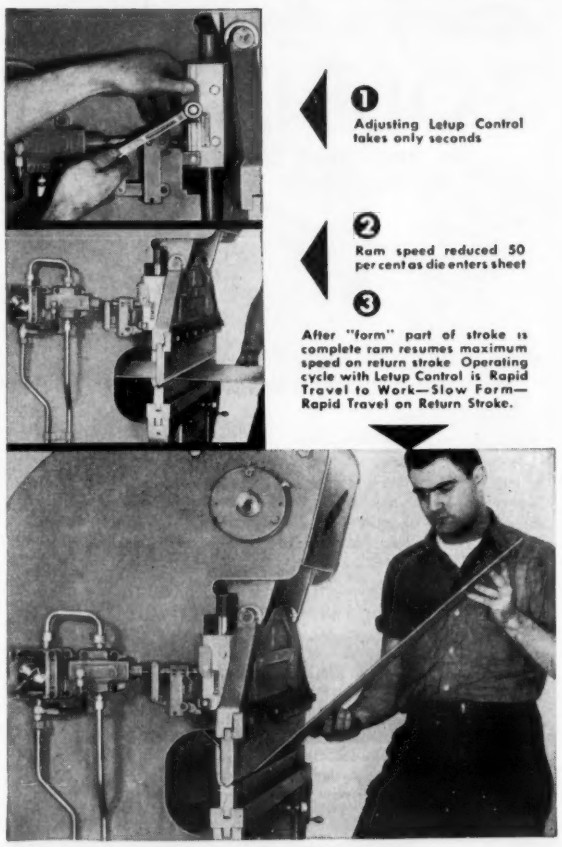


1 Adjusting Letup Control takes only seconds

2 Ram speed reduced 50 per cent as die enters sheet

3 After "form" part of stroke is complete ram resumes maximum speed on return stroke Operating cycle with Letup Control is Rapid Travel to Work—Slow Form—Rapid Travel on Return Stroke.

Letup Control on New High Speed
HYDRAULIC PRESS BRAKE

★ Eliminates whipping of material when forming

★ Makes for fast, safe forming of large sheets

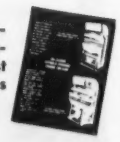
DI-ACRO HYDRA-POWER PRESS BRAKE

An adjustable flow control valve is the basic element in the Letup Control, an accessory for all Di-Acro Hydra-Power Press Brakes.

Models with 3', 4' and 6' bed and ram have Stroke Adjustment, speed from 32-80 strokes per minute, capacities of 16, 18 and 20 gauge mild steel. These and other *features exclusive to hydraulic press brakes* spell out *Efficient, Safe* operation for a rapidly growing list of satisfied customers.

Find Us Fast In The Yellow Pages

Consult the yellow pages of your telephone directory under Machinery—Machine Tools for the name of your nearest Di-Acro distributor or write us for press brake literature, prices and delivery.



di-acro PRECISION METALWORKING MACHINES pronounced die-ack-ro

O'NEIL-IRWIN MFG. CO.
354 8th Avenue • Lake City, Minnesota

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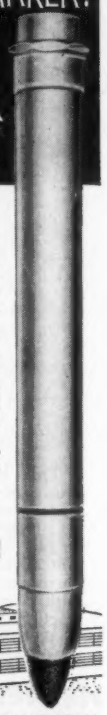
WORLD'S NO.1 INDUSTRIAL MARKER!

King Size

FLO-MASTER

Felt Tip Pen



Marks BIG & BOLD on any surface!

Especially designed for heavy duty use at your Shipping Room Table—Factory Bench.

King Size Flo-master has a greater ink capacity, uses larger felt tips (up to 1" wide) than any other marking instrument. For use with: • Transparent marking inks, *all colors* • Paint-like, opaque pigments, *all colors* • Most industrial solvents

Dual-purpose, snap-on cap may be screwed to table or work bench as a convenient, permanently-secured receptacle. Installed as shown, receptacle is airtight, keeps felt tip always moist, clean and free from factory dust and dirt, always ready for instant-marking on metal, glass, wood, plastics, rubber, fabrics.

By the makers of the *pocket-size* Flo-master Felt Tip Pen—"The Standard of all Industry."

At your marking equipment supplier —or write to

Dept. NE-4

CUSHMAN & DENISON

Carlstadt, New Jersey

QUALITY PRODUCTS FOR 75 YEARS

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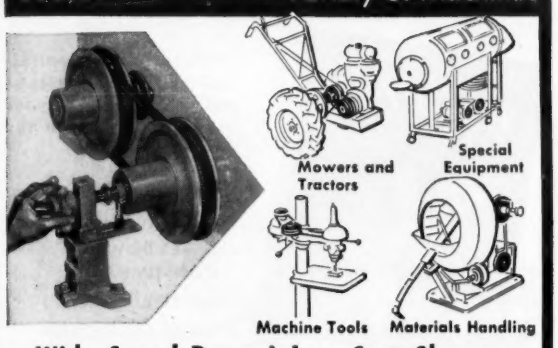
SPEED SELECTOR

VARIABLE PITCH SHEAVES

Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

SPEED SELECTOR INC.

P.O. BOX 312-N • CHAGRIN FALLS, OHIO

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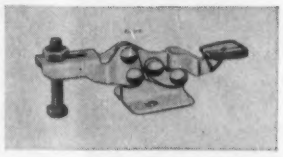
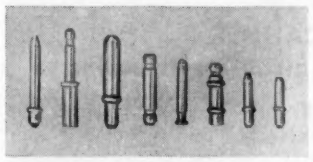
TINY TOGGLE CLAMPS have 100 to 150-lb clamping force



Large diameter, double shear bearing pins used in H-100 series of Knu-Vise miniature toggle clamps prevent tilting or side-thrust of the clamping spindle. Each tiny clamp has a 100 to 150-lb clamping force for a reach of 7/8 and 9/16 in. in front of the base, respectively. Clamp is offered with twin-flange, left flange, right flange, and straight base, the latter for side mounting. All have replaceable grips. Spindle head in the open position retracts beyond the front of the base, permitting vertical removal of large parts. Made by **Lapeer Mfg. Co.**, Dept. N, 1150 W. Baltimore, Detroit 2, Mich.

▲ For more details circle NED-696 D9 on enclosed inquiry slip ▲

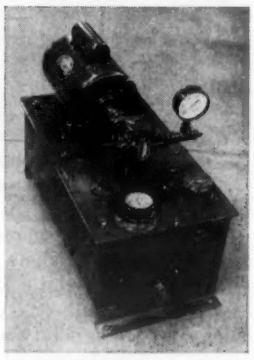
PINS & TUBULAR PARTS produced to close tolerances



Pins and small tubular parts for electrical, electronic, and mechanical applications are being produced to close tolerances and high dimensional accuracy. Beaded, grooved, headed, or shouldered to requirements, the parts are swaged by a process with reduces metal, resulting in savings in material costs. Swaged pins can be hollow throughout their entire length. Most standard pins can be furnished pre-slit to provide an even, four-point overlay. Various metals and finishes are available. Typical products are connectors, terminal and radio tube pins, shafts, spacers, studs, fasteners, bushings, guides, hinges, toy rivets, and plugs. Made by **Auto-Swage Products, Inc.**, 58 Wooster St., Shelton, Conn.

▲ For more details circle NED-697 D9 on enclosed inquiry slip ▲

HYDRAULIC POWER PACK with 5, 10, and 25-gal tanks



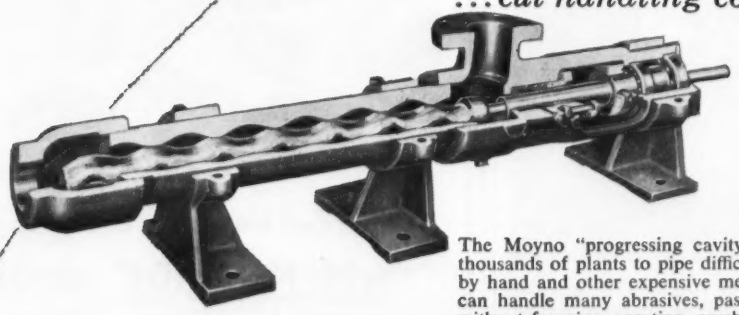
Ready for installation as original or replacement equipment, this 2000-psi hydraulic power pack is available in 5, 10, and 25-gal reservoir tank sizes. Units are designed for single or three-phase operation, with 1/2 to 3-hp motors and flow rates from 1/2 to 4 gpm. Gear type pumps have built-in overload relief valves. Oil filter, air filter breather, oil level gage, and pressure gage are standard equipment. Removable cover facilitates cleaning. Offered by **Essex Conveyors, Inc.**, 165 Franklin Ave., Nutley 10, N. J.

▲ For more details circle NED-698 D9 on enclosed inquiry slip ▲

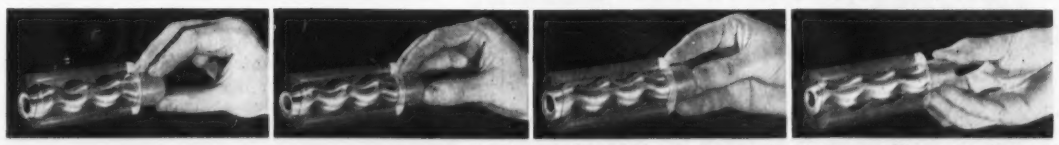
from abrasive slurries to delicate foods

MOYNO® PUMPS

...cut handling costs



The Moyno "progressing cavity" pumping principle has enabled thousands of plants to pipe difficult materials that were transported by hand and other expensive means. Moyno is the only pump that can handle many abrasives, pastes, slurries, chemicals, foods, etc. without foaming, aerating, crushing or excessive pump wear.



As shown above, Moyno Pumps have a screw-like rotor that revolves in a double threaded stator creating progressing cavities which smoothly move material through the pump. They will pump anything that will move through a pipe . . . even plaster and non-pourable pastes! Moyno Pumps are available in capacities up to 500 gpm and pressures up to 1000 psi.

Examine your processing methods. No doubt there are several places where Moyno Pumps can drastically cut costs. Ask us, we'll give you a frank answer. Send us an outline of your problem today! Write for Bulletin 30-NE.

ROBBINS & MYERS, INC.

SPRINGFIELD, OHIO — BRANTFORD, ONTARIO

Motors · Fans · Hoists · Moyno® Pumps · Propeller (Industrial) Fans

▲ For more details circle NED-695 D9 on enclosed inquiry slip ▲

the right screwdriving bit can determine your fastening costs!

The **right** screwdriving bit is designed for a specific screw size, then hardened and tempered for a specific type of screwdriving application. With the **right** bit, you'll assemble more products in less time, have fewer rejects, and drive more screws per bit.

You'll find the **right** screwdriving bit for your application in the new Apex Catalog 30-C, along with the complete line of Apex screwdriving tools for use with all types of drivers, to drive all types of screws. Write, on your company letterhead please, for your copy.

APEX INSERT BITS—used with APEX BIT HOLDERS

Apex also produces heavy-duty and long-length insert bits, power bits, hand drivers and many other standard and magnetic screwdriving tools.

Ask APEX *for the answer to your fastening problem!*

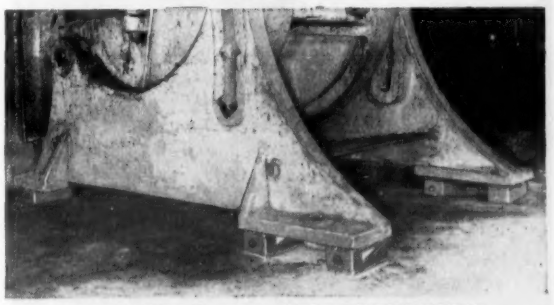
THE APEX MACHINE & TOOL COMPANY

1046 S. Patterson Blvd., Dayton 1, Ohio

▲ For more details circle NED-699 D9 on enclosed inquiry slip ▲

New Machinery Mount Does Better Job...

costs less than any equivalent mount on the market today



23,000-lb. Bliss Press on 5 Air-Loc WEDGMOUNTS. Most machine tools require only 4 WEDGMOUNTS.

We make only 2 claims for the

Air-Loc® **WEDGMOUNT** 4·17·4

1. Quick, accurate leveling at a price far below most other mounts.
2. Patented *Air-Loc*, in combination with 2 inclined wedges, HOLDS the precision and stability you get when you install your machines on WEDGMOUNTS.

This is the mount to use when you need a *precision* installation in a hurry. Mount is raised or lowered by adjusting nut, on right. Keyed wedges insure stability and prevent lateral motion. AIR-LOC pads on top and bottom provide 100% contact with machine foot and floor.

AIR-LOC DIVISION, Clark-Cutler-McDermott Company
103 W. Central Street • Franklin, Mass.

Please send complete information about the new Air-Loc WEDGMOUNT.

NAME ..... TITLE .....
(PLEASE PRINT)

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

▲ For more details circle NED-700 D9 on enclosed inquiry slip ▲

These FREE reports . . . give YOU

PROOF of SAVINGS

when Barry machinery mounts are used in machine installation or moving.

SAVED $54.00 per machine installation . . . American Type Founders

SAVED 90% time and labor in moving machines . . . Johnson and Johnson

SAVED 3 Days production time for entire machine shop . . . Wyman-Gordon

SAVED 20% direct-labor costs . . . Morgan Spring Div. Wickwire Spencer Steel

SAVED $1500 plus production time and labor cost . . . Die Supply Div., E. W. Bliss Co.

The detailed information in these revealing reports furnished by dollar-conscious American manufacturers can save money for you.

WRITE FOR YOUR FREE COPIES.

BARRY CONTROLS inc.

752 PLEASANT STREET, WATERTOWN 72, MASSACHUSETTS

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FAWICK rotorseals have 1000 uses

ROTORSEALS are by far the world's most efficient means of transmitting air, liquids or gases under pressure or vacuum into rotating shafts.

- Thousands of applications
- One to three passages
- Ready-to-use
- Life-sealed lubrication
- Speeds to 5000 rpm
- Pressures to 2000 psi
- Through-hole sizes from ⅜" to 1½"

Write for Bulletin ML-6

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 Clinton Rd., Cleveland 11, Ohio
In Canada, Fawick Canada, LTD., Toronto

FAWICK AIRFLEX

▲ For more details circle NED-702 D9 on enclosed inquiry slip ▲

How to select

WORM GEAR Drives

FREE TO DESIGN ENGINEERS

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

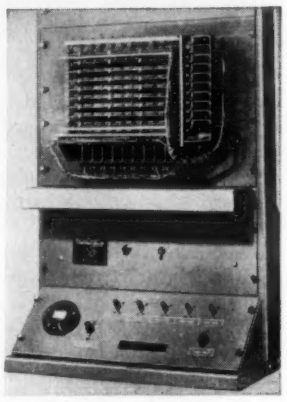
▲ For more details circle NED-703 D9 on enclosed inquiry slip ▲

PORTABLE HYGROMETER measures humidity from 100 ft away

Accurate indication of relative humidity from a distance up to 100 ft is possible with the portable Electro - Hygrometer. Quick readings are obtained with the electronic instrument without conversion charts. The hygrometer indicates from 30 to 95 per cent relative humidity within a temperature range of 32 to 180° F, accurate within ±5 per cent. Instrument can be used for measuring humidity level in difficult locations such as stacks of paper and grain bins. Probes can be furnished in regular shapes and in long, flat shapes for special interior applications. Made by **Labline, Inc.**, 3070-82 W. Grand Ave., Chicago 22, Ill.

▲ For more details circle NED-704 D9 on enclosed inquiry slip ▲

SELF-STEPPING SCANNER for sequential circuit connection



Model SC-4 self-stepping scanner has simplified drive circuitry which enables it to connect sequentially a six-wire circuit with each of 100 sets of six-wire terminals. Basically a Cunningham Type F crossbar switch, it operates at speeds up to 50 sets per second with low crosstalk between adjacent circuits at frequencies up to 10 megacycles. Scanning of very low level signals from thermocouples and strain gages, automatic circuit testing and selecting, diode and transistor testing, instrumentation, and computer and data processing are applications. In addition to optional dial-controlled monitoring over a two-wire circuit, the scanner operates from either a separate pulse source or on an internal pulse generator. Scanning cycle can be set for continuous repeat or single cycle. Made by **James Cunningham, Son & Co.**, Box 516, Rochester 2, N. Y.

▲ For more details circle NED-705 D9 on enclosed inquiry slip ▲

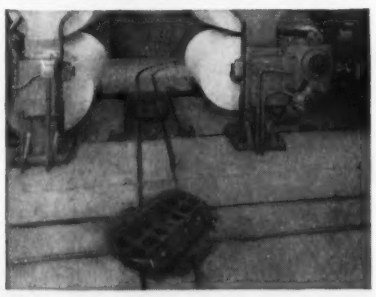
Motor Controls

Arrow-Hart & Hegeman Electric Co.—Product pictures, wiring diagrams, dimensional drawings, and prices are included in 78-page Catalog 14 on an extensive line of motor controls. Manual starters, magnetic relays, magnetic contactors and starters, magnetic reversing contactors and starters, magnetic two-speed starters, combination and reduced voltage starters, and pushbuttons are among products covered.

▲ For more details circle NED-706 D9 on enclosed inquiry slip ▲

Track and Dollies for 3000 lb. Rolls

SAVE TIME AND LABOR



Make roll handling safer and easier with a track system engineered by Dilts. Dollies are floor-loaded —lift truck traffic and crowded aisles are eliminated.

Dollies are mounted on anti-friction bearing rollers. Turntables, transfer tables, straight and curved track sections and switches are available in standard units to handle rolls up to 3000 lbs.

A Dilts engineered system is easy to install and requires no maintenance. Write for Specification Sheet 114.

THE BLACK-CLAWSON COMPANY
DILTS DIVISION • FULTON, N. Y.

▲ For more details circle NED-707 D9 on enclosed inquiry slip ▲

This is the actual size of Heinemann's new subminiature circuit breaker, the SM3. It weighs only 2.1 ounces, is hermetically sealed and magnetically actuated . . . requires no de-rating for high ambient temperature. In fact, extensive testing has proven the breaker's excellent all-around operational stability under extremely adverse environmental conditions. The SM3 is available with either fast or slow time delay, in any integral or fractional current rating from 0.050 to 10 amperes, at 110V, 60 cycles, 110V, 400 cycles ac; or 50V dc. For complete details and specifications, write for Bulletin 3502.

HEINEMANN ELECTRIC COMPANY
106 PLUM STREET TRENTON 2, N. J.

S.A. 1828

▲ For more details circle NED-708 D9 on enclosed inquiry slip ▲

GET THIS FREE LUBRICATION GUIDE

Modern Farval Centralized Lubricating Systems can drastically cut your production costs in the following ways:

- SAVES TIME
- SAVES MANPOWER
- SAVES POWER CONSUMPTION
- SAVES BEARINGS
- SAVES LUBRICANT

This new Bulletin 26-S contains 20 colorful pages that graphically show the complete Farval line and how these versatile lubricating systems can fit into your production picture.

THE FARVAL CORPORATION
3283 East 80th Street • Cleveland 4, Ohio
Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing. In Canada: Peacock Brothers Limited.

FARVAL CENTRALIZED SYSTEMS OF LUBRICATION

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The hardest metals are easiest to finish...

with NORBIDE* abrasive

NORBIDE boron carbide grain is widely recognized as the most effective, most economical abrasive for grinding and finishing many new, extra hard metal alloys. Among commercial abrasives, this Norton development is next to diamonds in hardness. Makers of the two major machines for ultrasonic impact grinding recommend its ability to outperform and outlast conventional abrasives — under the terrific impact force generated. And in lapping, NORBIDE abrasive's resistance to fracturing and splintering keeps finished surfaces free from tiniest scratches. For additional facts, write to NORTON COMPANY, Worcester 6, Mass.

G-356

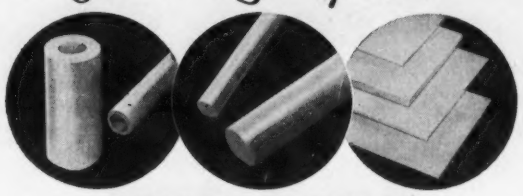
NORTON BORON CARBIDE

Making better products...to make your products better

*Trade-Mark Reg. U.S. Pat. Off. and Foreign Countries

▲ For more details circle NED-710 D9 on enclosed inquiry slip ▲

at your fingertips...



COMPLETE STOCKS OF NYLON, TEFLON,* KEL-F†

Whatever your needs may be, choose from complete and ample stocks of these materials . . . and enjoy fast delivery.

NYLON Rod and Tubing. Guaranteed bubble free, light weight Chemiseal Nylon has excellent mechanical properties, resistant to chemicals, oils, grease, solvents. Available in many diameters and lengths.

TEFLON Sheet, Tape, Rod, Tubing, Bars, Cylinders. Impervious to all chemicals except molten alkali, Teflon is suitable for use at temperatures from −110° to +500° F. Comes in widest variety of types and sizes.

KEL-F Sheet, Rod, Discs, Bars, Cylinders. Resists chemicals, alkalies, solvents. Offers high compressive strength, low cold-flow characteristics. All sizes on hand to meet your needs.

You'll get prompt service anytime, anywhere. Just call or write the nearest of the Garlock Packing Company's 30 sales offices and warehouses throughout the U.S. and Canada.

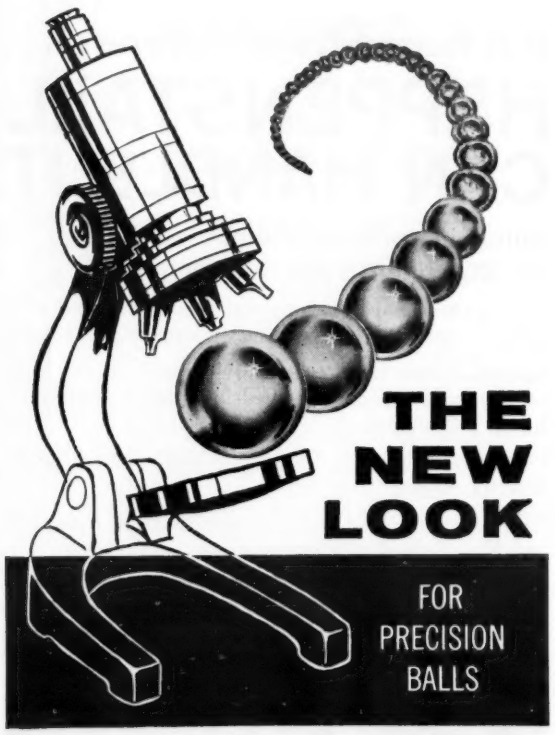
THE GARLOCK PACKING COMPANY, Palmyra, N. Y.

United States Gasket

*DuPont Trademark for TFE Fluorocarbon Resin
†M.M. & M. Trademark

Plastics Division of GARLOCK

▲ For more details circle **NED-711 D9** on enclosed inquiry slip ▲



A ball is a ball, its shape doesn't change, but modern industry demands a wider scope of materials, finer finishes and closer tolerances. Hartford's experience, facilities and continuing program of ball research and development combine to give you "the new look" to meet your new demands. The most complete catalog ever published on essential ball information (shown at the left) is yours for the asking. It's a guide to quick selection of precision balls for practically any requirement and material selection. Write for your copy today!

HARTFORD LEADS IN BALLS OF ALL MATERIALS

High Carbon Chrome	Glass	Copper
Stainless Steels	Nylon	Beryllium Copper
K-Monel	Teflon	Nickel Silver
Aluminum	Plastic	Cobenium
Naval Brass	Pyroceram	High Speed Steels
Carbon Steel	Gilding Metal	Stellite

Hartford PRECISION BALLS • BEARINGS

Hartford Steel Ball Co., Inc., 83 Jefferson Ave., West Hartford 6, Conn.

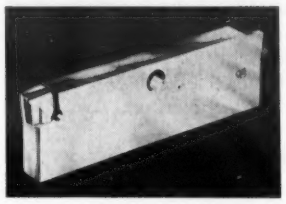
▲ For more details circle **NED-712 D9** on enclosed inquiry slip ▲

FORGED STEEL FITTING for making branch outlets

Making of branch outlets in high yield pipe lines is facilitated by use of the Sweepolet, a forged, integrally reinforced, insert butt welding pipe fitting. The fitting requires a minimum of welding and installation time and uniformly distributes stresses caused by internal pressure and externally imposed loads. Made by **Bonney Forge & Tool Works**, Allentown, Pa.

▲ For more details circle **NED-713 D9** on enclosed inquiry slip ▲

BLOCK-TYPE BORING TOOLS feature throw-away carbide inserts



Single and two-cutter micrometer-adjustable block-type boring tools utilize throw-away carbide inserts. Both styles are available with positive or negative rake, in Series G8, G6, and G4, covering a bore range of 2½ through 17 in. Carbide insert and carbide chip breaker are held in place by screw clamp. Two-cutter blocks, with opposed cutter design, prevent out-of-round boring. Diameter tolerances can be held within 0.004 in. Single-cutter blocks, with micrometer adjustment of block in the bar slot, allow boring to tolerances within 0.001 in. Made by **Giddings & Lewis Machine Tool Co.**, Davis Boring Tool Div., Fond du Lac, Wis.

▲ For more details circle **NED-714 D9** on enclosed inquiry slip ▲

LIGHTWEIGHT VOLT-OHM METER checks sensitive, explosive circuits

Containing its own power pack, this hand-size igniter volt-ohm meter can be used to test electrical circuits where explosive or sensitive contacts and components are involved. It measures continuity, resistance, and stray voltages up to 500 mv dc and is safe for testing explosive cartridges, missile firing circuits, missile warheads, and TNT detonators. Under short circuit conditions, maximum current available at the terminals is 0.0005 amp. Open circuit voltage is 1.35 v, and maximum power at the terminals is 170 mu w. Sealed, shock-resistant plastic case contains a galvanometer, power supply, and five-position selector. Unit is shown being used to check an ejector cartridge. Contacts are on the side. Made by **Borg-Warner Corp.**, Pesco Products Div., 24700 N. Miles Rd., Bedford, Ohio.

▲ For more details circle **NED-715 D9** on enclosed inquiry slip ▲

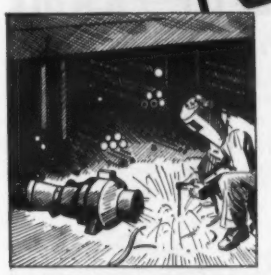
Service men all across the country agree . . . there's no other screw driver or nut driver with the built-in comfort of the VACO "comfordome" handle. Makes service work easy! Enjoy the luxury grip of a VACO . . . the driver that gives plenty of power, yet is always kind to hands. Next time choose a VACO and *feel the difference!*

Manufactured and Unconditionally Guaranteed by

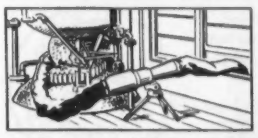
VACO PRODUCTS CO., 317 E. Ontario St., Chicago 11, Ill.

In Canada: VACO-LYNN PRODUCTS CO., LTD., Montreal 1, Que.

▲ For more details circle **NED-716 D9** on enclosed inquiry slip ▲



WELDING FUMES are here removed by this Vano Ventilator-Exhauster.



FUMES FROM A REACTOR KETTLE are here withdrawn by tripod-mounted Vano Ventilator-Exhauster. Note non-collapsible suction tubing and discharge tubing.

Ventilate CONFINED Places with Vano Design "C" Ventilator-Exhauster

Ideal for withdrawing welding fumes from confined places or directly from the welding rod. Provides greater safety, greater comfort for workers . . . leads to greater work efficiency. Can be furnished with 8" suction inlet to which 8" non-collapsible suction tubing may be attached . . . or provided with multiple inlet nozzles for 5", 4" and 3" suction hose.

Other types are also available for supplying fresh air to men working in confined places, such as tanks, manholes, drums, boilers and ship-holds.

For full details on Coppus Vano Design "C" Ventilator-Exhauster write **COPPUS ENGINEERING CORPORATION**, 404 Park Avenue, Worcester 2, Mass.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

▲ For more details circle **NED-717 D9** on enclosed inquiry slip ▲

THIS is No Ordinary Power Hack Saw Blade

This is the *unbreakable* MARVEL High-Speed-Edge Hack Saw Blade—the first bi-metal blade—invented, developed and introduced by MARVEL. This blade was developed to cut any material from the free machining steels to the toughest alloys, fast, accurately and economically. Just one type blade to handle any job—no switching blades to cut different materials.

MARVEL blades can be tensioned from 200% to 300% more taut than ordinary blades. This advantage permits heavier feed pressures to be used without deflection or fear of breakage.

This rugged cutting tool assures outstanding economy, accuracy, long life and complete safety—*it is unbreakable.*

Ask for MARVEL Blades by name and you can be sure you're getting the best. Leading Industrial Distributors have them in stock. Write for latest Cutting Tool Bulletin. FB-1021

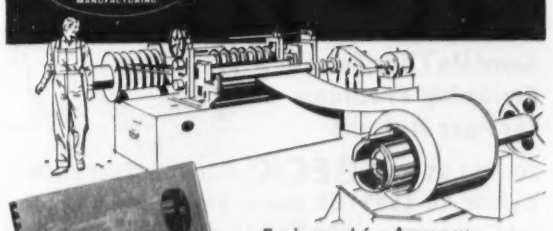
ARMSTRONG-BLUM MFG. CO.

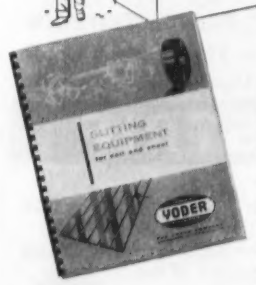
5700 W. Bloomingdale Ave., Chicago 39, U.S.A.

Manufacturers of the Outstanding MARVEL Metal Saws

▲ For more details circle **NED-718 D9** on enclosed inquiry slip ▲

YODER SLITTERS





Engineered for Accuracy, Speed, Easy Operation

Send today for Yoder's 76-page, fully-illustrated book, "Multiple Rotary Slitting Lines". It covers operating techniques, time studies, operating cycle analyses, coil handling, scrap disposal, and setting up of complete slitting lines. Lists advantages of slitting and how to compute "profit-point".

THE YODER COMPANY
5547 Walworth Avenue • Cleveland 2, Ohio
Please send my copy of Yoder's "Multiple Rotary Slitting Lines"

NAME _____
COMPANY _____ POSITION _____
ADDRESS _____
CITY _____ STATE _____

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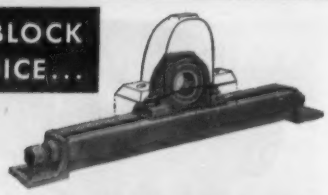
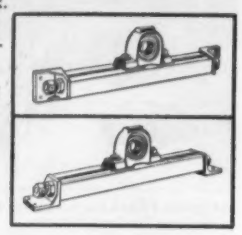
USE PILLOW BLOCK OF YOUR CHOICE...



Versa MOUNT

TAKE-UP FRAME
Mount Side or Top

- Use with any standard pillow block. One basic frame size for all makes and types—ball, roller or babbited.
- Mounts either side or top. Simply loosen locknut and turn mounting flange to desired position.
- Easily installed on old or new equipment.
- Delivery from stock in sizes for ½" to 2⅛" pillow blocks, travel lengths from 2" to 36".
- Mounting screw is totally enclosed for protection against dirt, contamination, etc., yet readily accessible when lubrication or cleaning is desired.
- All parts can be quickly disassembled without special tools and *are individually replaceable.*



Request Bulletin V-647 and Prices.

LOVEJOY FLEXIBLE COUPLING CO.
4803 W. LAKE STREET • CHICAGO 44, ILLINOIS
For more details circle NED-720 D9 on enclosed inquiry slip

For more details circle NED-721 D9 on enclosed inquiry slip

PAINT STRIPPING CLINIC!

Send Us Your Tough Stripping Problems for Fast Action!

10 YEARS OF BECK PAINT STRIPPING CLINICAL SERVICE Saves Thousands of $$$ for Customers—Who Now Use World-Famous...

EPOXYSTRIP

Better find out for yourself . . . about Epoxystrip, Econostrip and other Beck Paint Remover lines and formulations. Use the BECK CLINIC SERVICE—send us several parts, sections, or test panels (properly tagged) of the work to be stripped.

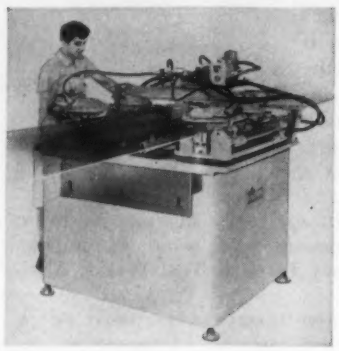
Write or 'phone giving us essential information—your problem details, requirements, tanks available, hot or cold, etc. This service, and our prompt report, are free, with no obligation.

Beck Strippers outstrip all others—removing organic finishes, epoxies, etc., as easily as baked enamels, lacquers, etc. No stripping scum—clean rinsing!

SEND FOR FREE BROCHURE

BECK EQUIPMENT COMPANY
3350 WEST 137th STREET — CLEVELAND 11, OHIO
For more details circle NED-722 D9 on enclosed inquiry slip

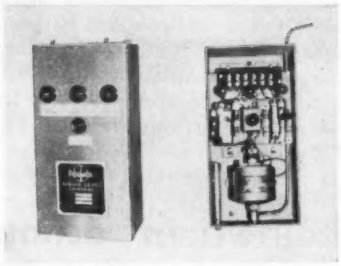
AUTOMATIC PRESS FEEDER
handles 36, 48, 60-in. materials



Sizes to handle materials up to 36, 48, and 60 in. wide are available in the Ses-Matic Double Air Feed which automatically feeds materials to almost any press or shear from the front, back, or either side. Easily moved from machine to machine, installation requires only mounting of a limit switch to be tripped on the press or shear up-stroke. Stock is gripped along both edges and is carried forward by two gripper heads sliding on two guide bars. Adjustable stroke is cushioned at each end by a self-contained hydraulic check. Non-powered stock leveller for removing coil curvature from mild steel is optional equipment. Made by **Special Engineering Service, Inc.**, 8161 Livernois Ave., Detroit 4, Mich.

For more details circle NED-723 D9 on enclosed inquiry slip

LIQUID LEVEL CONTROLS
0.02-100 psi, 30-in. vacuum ranges



Pressure signal received by Series 1800 liquid level controls actuates a combination of electrical components to perform various electrical functions. Control will automatically start or stop a pump or actuate a valve. It can also sound alarms within the control and, at remote points, provide means for silencing the alarms. Controls for 0.02 to 100 psi and to 30 in. vacuum ranges are actuated by a pressure element connected to an air-bell pick-up device in the tank at the approximate level where alarm is desired. Finer adjustment is made within the control. Colored bull's-eye lenses indicate the status of the control. A removable chassis permits servicing electrical components. Made by **Petrometer Corp.**, 43-22 Tenth St., Long Island City 1, N. Y.

For more details circle NED-724 D9 on enclosed inquiry slip

Hydraulic & Pneumatic Couplings

Titeflex, Inc.—Straight-through, single check-valve, and double check-valve Quick-Seal couplings for hydraulic and pneumatic applications are discussed in 20-page Bulletin Q.S.R. 58. Couplings will handle chemicals, oils, greases, gases, and liquid, and are leakproof at all operating pressures. They can be coupled or uncoupled in 1 sec without special tools.

For more details circle NED-725 D9 on enclosed inquiry slip

For more details circle NED-726 D9 on enclosed inquiry slip

Fast way to address multiple carton shipments

WEBER "TOUCH-STENCILING"—the fast, modern way to address multiple carton shipments. No stencilboards, rubber stamps or label typing. Just a "touch" on the carton with a Weber hand duplicator and stencil leaves a clear, sharp, permanent address. Stencil can be typed or handwritten. No special cutting equipment needed. 40 to 50 cartons can be addressed in a minute. Also ideal for product identification and other marking jobs.

Send for free copy of new bulletin on Weber "Touch Stenciling" methods.

Weber
MARKING SYSTEMS

Weber Marking Systems
Div. of Weber Addressing Machine Co., Inc.
Dept. 25-D
Mount Prospect, Ill.

For more details circle NED-727 D9 on enclosed inquiry slip

if it hangs from a crane...

HEPPENSTALL CAN HANDLE IT

Automatic or manually operated tongs for any lifting or moving operation.

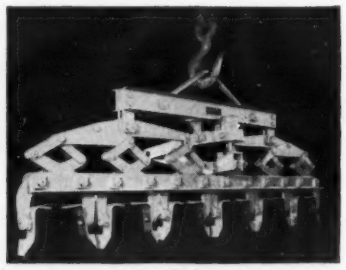
Loads of any shape, size or weight can be handled with speed, safety and economy by Heppenstall Tongs.

Special design features permit close, high stacking of raw materials and finished inventories with minimum aisle space.

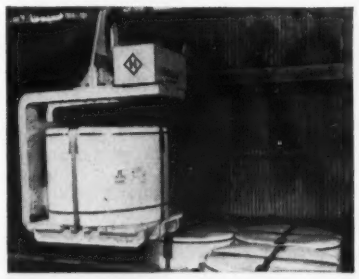
Other Heppenstall Tongs lift and turn objects simultaneously.

To protect finished surfaces, non-marring materials can be attached to gripping jaws.

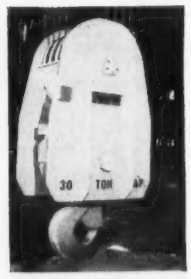
For lifting circular and cylindrical objects.



For lifting and turning six aluminum ingots.



Double C Hook, for lifting palletized loads.



Motorized rotating crane hook.

Remember . . .
if it hangs from a crane, Heppenstall can handle it.

HEPPENSTALL COMPANY
PITTSBURGH 1, PENNSYLVANIA
Material Handling Division • New Brighton, Pa.
PLANTS: Pittsburgh, Pa. • Bridgeport, Conn. Indianapolis, Ind. • New Brighton, Pa.
MIDVALE-HEPPENSTALL COMPANY
NICETOWN, PHILADELPHIA 40, PA.
DIE BLOCKS • FORGINGS • BACK-UP ROLL SLEEVES • RINGS • INDUSTRIAL KNIVES • MATERIALS HANDLING EQUIPMENT
For more details circle NED-728 D9 on enclosed inquiry slip

NEW FLOOR MODEL A-F

Wilder MICRO-PROJECTOR with VERTICAL LIGHT BEAM

Quality Control plus Cost Control

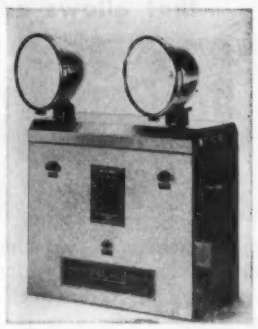
- Completely versatile. For production inspection or as contour measuring projector.
- Choice of 3 measuring stages 1" x 1", 2" x 2", 2" x 4".
- Full set of lenses between 10x and 100x magnification.
- Full length cabinet eliminates separate worktable.
- Detachable shelf optional.

Write for New 12 page catalog 357.

OPTO-METRIC TOOLS, INC.
137 NE Varick Street, New York 13, N. Y.

For more details circle NED-729 D9 on enclosed inquiry slip

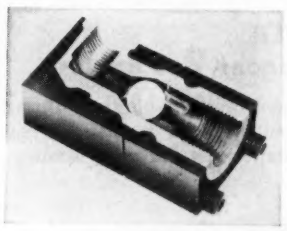
EMERGENCY LIGHTING UNIT illuminates 10,000-sq ft area



Improved semiportable Nicad emergency lighting unit requires water only about twice a year. Unit is powered by Nicad nickel cadmium battery and has heavy-duty dual contact relays. A built-in trickle charger keeps battery at full charge. The double-light unit illuminates 10,000 sq ft area for as long as 2 hr upon power failure, and can withstand extreme storage and operating temperatures. It does not give off corrosive fumes and will not deteriorate while standing idle. The 68-lb Model 7 shown connects to 120-v ac outlets and has nonglare diffused lamp heads. Made by **Gould-National Batteries, Inc.**, Nicad Div., Easthampton, Mass.

For more details circle NED-732 D9 on enclosed inquiry slip

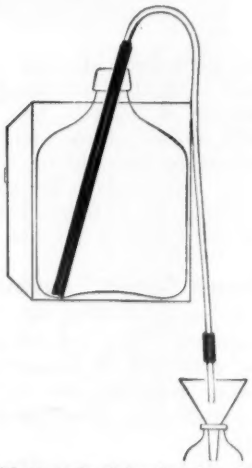
FLUOROCARBON CHECK VALVE ½ to 1-in. sizes armored in metal



Fluorocarbon on all fluid surfaces enables Kemlon check valves to resist almost every fluid except molten sodium. Armored in solid metal, valves have burst pressure ratings to 1000 psi. Valves are recommended for severely corrosive service where valve failures due to balls sticking are a problem. They are available in ½, ¾, and 1-in. sizes, either threaded or with ASA flange connections, and in either right-angle or in-line styles. Made by **Keystone Engineering Co.**, 6315 England St., Houston 21, Tex.

For more details circle NED-733 D9 on enclosed inquiry slip

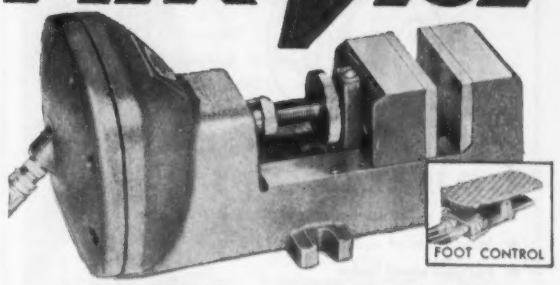
SAFETY SIPHON for acids and corrosive liquids



Quickly primed by a "trombone" pumping action, this siphon is used to safely draw acids and other corrosive liquids from carboys and drums. Entire contents may be discharged by manipulation of the flow control valve, adjustable from a trickle to a steady flow. Siphon is made of inert plastic. Made by **Alden Speare's Sons Co.**, 136 Sixth St., Cambridge, Mass.

For more details circle NED-734 D9 on enclosed inquiry slip

Speedy AIR VISE

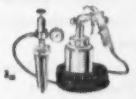


HIGH SPEED · POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... $44.00

SPEEDY AIR REGULATOR
Regulates pressures 0 to 140 lbs. No. 622 $7.25

SPEEDY AIR FILTER
Assures clean, oil-free air. No. 140 $4.00



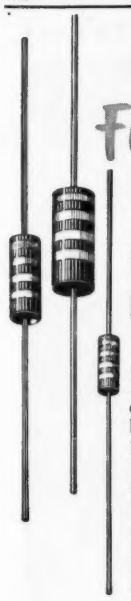
SPEEDY UNIT
Production spray unit with Ext. Mix Gun. No. 705 $26.50

Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

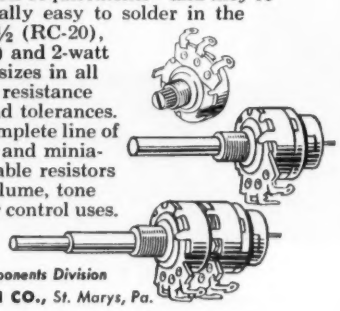
AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

For more details circle NED-736 D9 on enclosed inquiry slip

STACKPOLE Fixed and Variable RESISTORS for commercial and military requirements



New Stackpole *Coldite 70+®* fixed composition resistors far exceed MIL-R-11B requirements—and they're exceptionally easy to solder in the bargain! ½ (RC-20), 1 (RC-32) and 2-watt (RC-42) sizes in all standard resistance values and tolerances. Also a complete line of standard and miniature variable resistors for all volume, tone and other control uses.



Electronic Components Division
STACKPOLE CARBON CO., *St. Marys, Pa.*

OTHER ELECTRONIC COMPONENTS—Low Value Capacitors — Ceramag (ferromagnetic) and Iron Cores — Slide and Snap Switches — Ceramagnet (ceramic) Permanent Magnets.

For more details circle NED-730 D9 on enclosed inquiry slip

LeTourneau ELECTRIC HOISTS

LeTourneau Hoists offer such high precision control that loads can be raised or lowered in increments of .008". Cuts time lost in adjusting loads up and down. Available in free-rolling, hand-geared or motorized trolley and deck, hook and lug mountings. Lightweight, low-headroom design . . . *from 3 to 45 tons and up!*

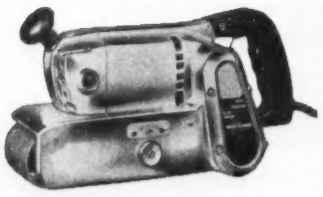
R.G. LeTOURNEAU INC
INDUSTRIAL EQUIPMENT DIVISION
2564 S. MacArthur • Longview Texas

Write for free descriptive literature today. F-123

For more details circle NED-737 D9 on enclosed inquiry slip

POWER for a smooth surface in seconds

REMINGTON SANDERS



Shown is Remington's Model SA51, 3" belt sander. Features include parallel-mounted, 115- or 230-volt motor; silent roller-chain drive and sealed heavy-duty ball bearings. The Remington line includes an orbital sander and 3 disc sanders for tough, day-in, day-out finishing work. Price, Model SA51—115 volt, $89.95*, includes abrasive belts. 230 volt, $92.50*.

You can select almost any kind of portable power tool from the Remington line. For improved toolroom efficiency, standardize on Remington—each tool carries the Remington warranty and is serviced by Remington through the most complete service-station setup of any power tool maker.

*Specifications and prices subject to change without notice. Prices slightly higher in Canada.

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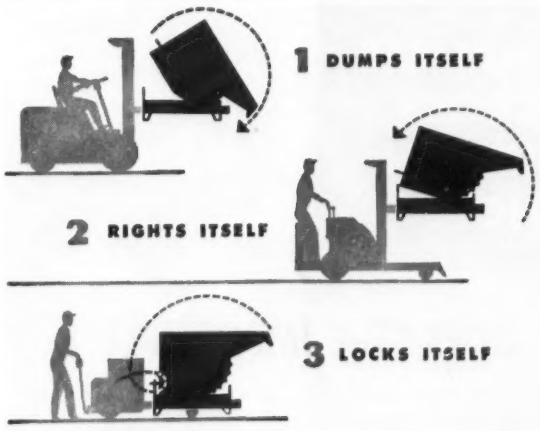
Remington

Remington Arms Company, Inc.
Bridgeport 2, Conn.
In Canada: Remington Arms of Canada, Ltd.
36 Queen Elizabeth Blvd., Toronto, Ontario.

DU PONT

For more details circle NED-731 D9 on enclosed inquiry slip



Cuts handling time . . . and costs . . . 50%

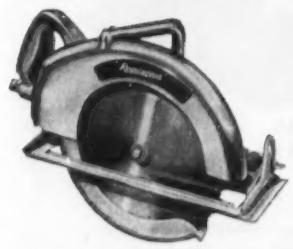
Here's the fastest, lowest cost method ever devised for handling hot or cold, wet or dry bulk materials . . . scrap metal, hot forgings, cinders, soybean meal, etc. Fits any standard lift truck. One man picks up loaded Hopper with truck, transports it to destination, and flips the latch. The Hopper automatically dumps its load, rights itself, locks itself. Cuts costs 50%. Made of ⅛" steel plate with continuous arc-welded seams. Also in stainless steel or galvanized. Five sizes, ½ to 2 cubic yards. Standard models can be shipped from stock immediately. Literature and other information available on request. ROURA IRON WORKS, INC., 1415 Woodland Ave., Detroit 11, Mich.

ROURA Self-Dumping HOPPER

For more details circle NED-735 D9 on enclosed inquiry slip

POWER to handle extra-heavy construction

REMINGTON AIR SAWS



Shown is Remington's Model P128, 12"-blade, air-powered circular saw. Cuts 4 5/16" deep at 90° and 3 5/16" deep at 45° bevel. Also available, Model P86, 8½"-blade circular saw. Price, Model P128—$345.00* complete with blade, 10-ft. air hose, rip fence guide, steel carrying case, wrenches and lubricant.

You can select almost any kind of portable power tool from the Remington line. For improved toolroom efficiency, standardize on Remington—each tool carries the Remington warranty and is serviced by Remington through the most complete service-station setup of any power tool maker.

*Specifications and prices subject to change without notice. Prices slightly higher in Canada.

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Remington Arms Company, Inc.
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36 Queen Elizabeth Blvd., Toronto, Ontario.

DU PONT

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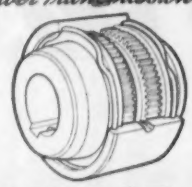
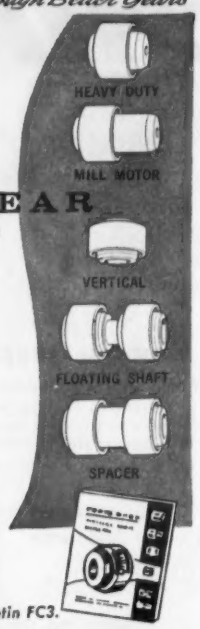
FOOTE BROS.

Better Power Transmission Through Better Gears





FLEXIBLE GEAR COUPLINGS*

- Quick, easy installation
- Minimum of working parts
- Forged steel hubs

Available in 6 types, capacities to 4500 HP per 100 RPM. Simple, rugged design, great inherent strength give Foote Bros. Couplings unequalled efficiency and high load carrying capacity. Quick assembly, dis-assembly cuts downtime; smooth "clean" design with no protruding or overhanging parts insures safer operation.

*Patented and manufactured by Sier-Bath Gear & Pump Co., Inc.

Write for special 12 page Coupling Bulletin FC3.

FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 South Western Boulevard • Chicago 9, Illinois

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They both know the best buy in tape . . .

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FRICTION .... RUBBER .... PLASTIC

Send today for our most recent bulletin describing details.

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GARFIELD, NEW JERSEY

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INST-O-VERSE® Motors

ENCOURAGE FRESH THINKING FOR NEW PRODUCT APPLICATIONS WHERE GEAR REDUCTION IS NEEDED

Franklin Electric

INST-O-VERSE GEAR MOTORS enlarge opportunities for competitively priced, high dependability products.

RATIO ?:1

Ratios to your specifications through gear reduction such as epicyclic, worm, bevel and other gears, PLUS instant, full-power reversability extends power package applications.

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Write for Franklin INST-O-VERSE DATA and motor catalog . . .

Automatic or manual single or double pole switches energize on, off, forward or reverse operation of one or more output shafts.

Franklin Electric Co., Inc.
BLUFFTON, INDIANA

PATENT PROTECTED

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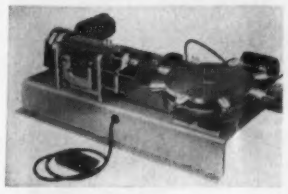
COIL WINDING MACHINE features turret transfer device that allows adding of attachments



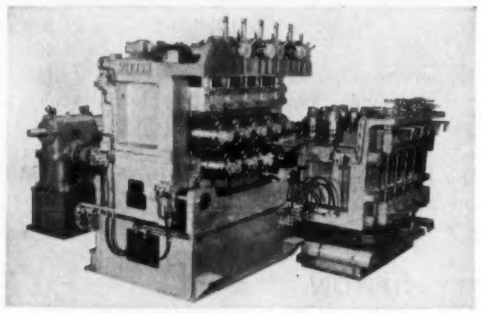
Complete bobbin or single layer coils are produced without operator attention by Model CK coil winding machine when it is equipped with a hopper or magazine feed for the coil forms and appropriate attachments. Machine features a turret transfer device that allows adding the hopper feed, as well as stripping, cementing, taping, and cutting attachments.

Machine permits winding speeds as high as 6000 rpm. Maximum coil length is 1½ in. and maximum coil diameter is 2 in. Transfer time is less than 1 sec, and weight is from 150 to 200 lb, depending on accessories. Primary and secondary windings can be wound at different points on the same turret. Tapped coils may be produced, or a variety of finishing operations performed on two different windings when two heads are supplied. Made by **Coil Winding Equipment Co.**, Oyster Bay, L. I., N. Y.

▲ For more details circle NED-742 D9 on enclosed inquiry slip ▲

SHAPE STRAIGHTENER for squares, hexagons, and angles

Large roll shafts on very close centers enable the Sutton 2L shape straightener to remove short hooks, waves, and kinks from steel and nonferrous flats and shapes



at high speed. Machine accurately straightens squares from ¼ to 1½ in., hexagons from ¼ to 1¾ in. and flats up to 2½ x ½ in. Vertical shaft unit is adjustable up and down and the horizontal shaft unit is adjustable laterally for alignment of roll grooves in both units. Made by **Sutton Engineering Co.**, First National Bank Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-743 D9 on enclosed inquiry slip ▲

Closed Circuit Television

Cohu Electronics, Inc., Kin Tel Div.—Typical applications of Kin Tel closed circuit television equipment are described in illustrated Catalog 6-103. Cameras, camera housings, pan-tilt mechanisms, control panels, monitors, and other components are detailed in its 8 pages.

▲ For more details circle NED-744 D9 on enclosed inquiry slip ▲

DOES "THE IMPOSSIBLE"!

Think of it. This new Hewitt-Robins hose offers long service with fluids that cannot be handled in premium standard constructions. Lined with Teflon, the latest DuPont fluorocarbon plastic, Maltese Cross Teflon hose is ideal for rugged steam, chemical, hydraulic, or pneumatic service. Inert to action of a great many corrosive chemicals, including nitric acid and sodium hydroxide, temperature resistant from −65° to 420°F., and non-adhesive to cut flow resistance and simplify cleaning, this hose provides long-term returns on hose investment. Maltese Cross Teflon hose is available in sizes from ½" to 3" i.d. Write Hewitt-Robins, Stamford, Conn., today for Bulletin 4-14.

HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS . . . POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE . . . VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

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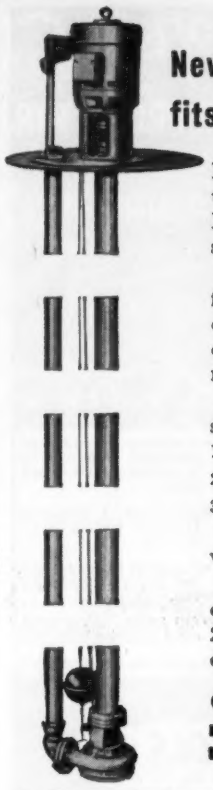

New adaptable sump pump fits any pit from 2'-20' deep

Here's a new sump pump that's easily tailored to your exact needs—Goulds Fig. 3171 heavy-duty vertical centrifugal sump pump.

You can get it in 6-inch increments, from 2- to 20-foot lengths to accommodate most pits. And when you want to change pit depth or pump ratings, you merely replace necessary parts *in the field.*

Other "custom" features you get at a standard price:

1. Interlocking fits for permanent alignment.
2. External adjustment of impeller clearance.
3. Sealed-in, easy-to-replace upper bearing.

Single and duplex units available for wet and dry pits.

Vapor-proof construction upon request. Capacities to 1080 GPM, heads to 290 ft. For details, see your Goulds dealer or write:

GOULDS PUMPS, INC.
Dept. NED-49 Seneca Falls, N. Y.
Branches and Representatives in all principal cities

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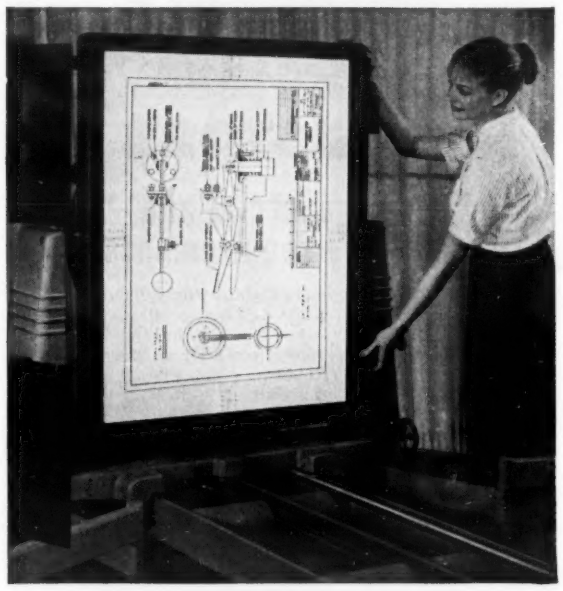
thanks to XEROGRAPHY...



MARK III XEROGRAPHIC CAMERA

NOW...FAST, LOW COST 12" x 18" COPIES

from engineering drawings up to 34" x 44"

The introduction of two new cameras, by Haloid Xerox Inc., greatly increases the efficiency and versatility of XeroX® Model 1218 copying equipment.

Now, thanks to xerography—the clean, fast, dry, electrostatic copying process—you can get 12" x 18" copies—hundreds, if needed, in minutes—from original engineering drawings up to 34" x 44".

Model 1218 copying equipment provides a fast method of preparing inexpensive 12" x 18" offset paper masters for fast, economical duplicating.

NEW MARK III XEROGRAPHIC CAMERA • Improved lens system assures complete optical coverage of large 30" x 40" copyboard; 19" focal length lens.

NEW MARK IV XEROGRAPHIC CAMERA • Rugged, greatly improved camera; copyboard accommodates 34" x 44" (E size) drawings; 24" focal length lens.

Write today for free folder X-293

HALOID XEROX INC.
59-207X Haloid St., Rochester 3, N. Y.
BRANCH OFFICES IN PRINCIPAL U. S. AND CANADIAN CITIES
Overseas: Rank-Xerox Limited, London, Eng.

HALOID XEROX®

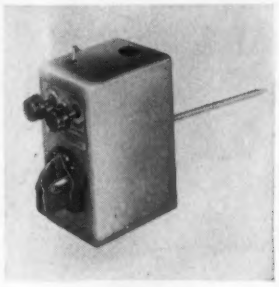
▲ For more details circle NED-747 D9 on enclosed inquiry slip ▲

They compared "K" Factors and Cost Factors...and bought Snap*On®

Nothing like Snap*On, the one-piece pipe insulation of molded fine glass fibers, for thermal efficiency and economy, for cold or hot piping up to 350°. Just open the seam—it snaps on the pipe! It comes in 3′ and 6′ sections that one man can apply. Available in all major cities, plain or jacketed, in sizes from copper tubing to 36″ IPS. See Yellow Pages for local Snap*On distributor, or write today to **Gustin-Bacon Manufacturing Company, 262 W. 10th St., Kansas City, Mo.** *Advt.*

▲ For more details circle **NED-748 D9** on enclosed inquiry slip ▲

HYDRAULIC BULB THERMOSTAT
for baths, ovens, sterilizers



Unusual design of two individual switch carrier arms on one common sensing element increases versatility of the Dual Microtrol hydraulic bulb-type thermostat. Control is used for water baths, incubators, ovens, sterilizers and related equipment. It can provide setting of two preselected temperatures for quick duplication; can be used as a safety control with one switch controlling, the other giving overheat protection; or can operate as an automatically cycled two-temperature programmer when used with an electric timer. Response sensitivity is ±1° F. Temperature ranges available for the 115 or 230-v ac units are 50 to 220 and 100 to 550° F. Made by **Blue M Electric Co.**, 138th & Chatham Street, Blue Island, Ill.

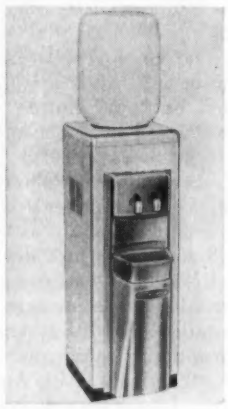
▲ For more details circle **NED-751 D9** on enclosed inquiry slip ▲

DRILL BUSHINGS
anchor in aluminum templates

Quick and inexpensive method for making drill templates is afforded by press type anchor bushings which are simply pressed into drilled or punched holes in 0.060-in. or thicker aluminum template material. Double row of serrations at base of bushing body assure a positive lock into the template to resist drill torque. Drill sizes No. 55 through 7/16 in., or 0.052 through 0.4375 in. are accommodated by only three pilot sizes. Made by **Hi-Shear Rivet Tool Co.**, 2600 W. 247th St., Torrance, Calif.

▲ For more details circle **NED-752 D9** on enclosed inquiry slip ▲

HOT-COLD WATER KIT
usable on bottle water coolers



Any electric bottle-type water cooler can be made into an efficient hot-and-cold water dispenser with the Model F conversion kit. Converted unit will deliver about 60 six-ounce cups of 190° F water per hour in addition to its normal capacity of cooled water. Kit comprises a gray plastic panel, water heater unit, new faucets and suitable connections. Existing faucet is removed and kit and new faucet adapter is installed in its place. Made by **Cordley & Hayes**, 443 Fourth Ave., New York 16, N. Y.

▲ For more details circle **NED-753 D9** on enclosed inquiry slip ▲

USG® FRACTIONAL H. P. BRUSHES

THESE USG BRUSHES CAN HELP YOU OBTAIN MORE DEPENDABLE SMALL-MOTOR PERFORMANCE

If you manufacture fractional horsepower motors, it will pay you to install USG Brushes to get the most efficient operation from your product. USG Brushes are doing an efficient job for manufacturers of appliances, hand tools, fans, and similar units. To check your specifications with our materials, write for our new Catalog B-56 and the new USG Grade List . . . you'll find them a great help in designing.

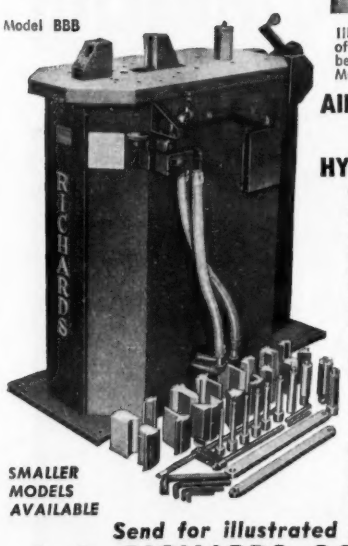
221

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICH.

Multiform BIG BROTHER BENDER

Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

Model BBB



AIR OPERATED MODELS IN FOUR SIZES
HYDRAULIC—3 MODELS

The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1″ and form material up to ¼″ thick by 4″ wide. We also build smaller models, hand or air operated, for bending materials up to ⅛″ x 1½″.

SMALLER MODELS AVAILABLE

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J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

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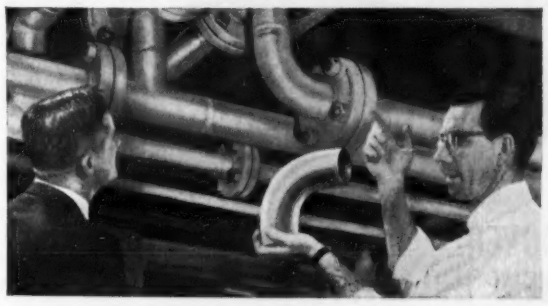

MORE PIPE LENGTH
...with Speedline® FITTINGS

Compare Speedline's Extra Pipe Length bonus with conventional fittings.

I.P.S. SIZE	½″	¾″	1″	1¼″	1½″	2″	2½″	3″	4″
90° Elbow	2½″	3″	2¾″	2½″	2½″	3″	2½″	4″	4½″
45° Elbow	2½″	3″	2¾″	2½″	2½″	3″	2½″	4″	4½″
Tee	4⅛″	4½″	4⅛″	3¾″	3⅜″	4½″	4⅞″	4⅞″	4⅞″
Cross	5½″	6″	5½″	5″	4½″	6″	6½″	6½″	6½″

With 100-2″ Speedline elbows you get 25′ more pipe than with conventional fittings. How do these pipe savings add up for your requirements?

GET *EXTRA* PIPE LENGTH ON *EVERY* END OF *EVERY* SPEEDLINE FITTING . . . DESIGNED FOR USE WITH *ECONOMICAL* LIGHT WALL STAINLESS STEEL PIPE. WRITE FOR FREE CATALOG. 904

Distributors are located in principal cities from coast to coast

Speedline® STAINLESS STEEL FITTINGS
® Reg. T. M. manufactured by
HORACE T. POTTS CO. 532 E. Erie Ave., Phila. 34, Pa.

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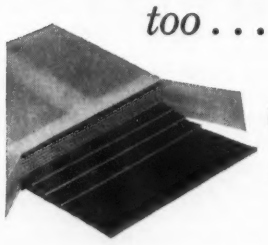
Hear
the difference

Feel it,
too . . .



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ISOMODE® PADS

It's so simple . . . so effective. Cut the size you need from standard sheet of Isomode Pad. Place under machine feet . . . hear and feel the difference! Long-life, resilient neoprene absorbs vibration . . . helps cut plant noise . . . saves wear on machines and floors alike. Box of ten 18″ x 18″ Isomode Pads is enough for 80 tons of machinery. Make a test . . . convince yourself. Write for details.

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MB manufacturing company
A DIVISION OF TEXTRON INC.
1066 State Street, New Haven 11, Conn.

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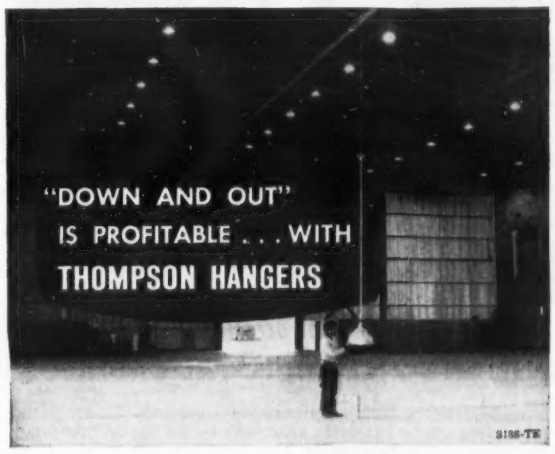

Servicing hi-bay luminaires *at floor level* reduces maintenance costs because it is faster, safer and easier. With THOMPSON HANGERS, one man can lower, relamp, clean and re-position a luminaire in 5 minutes. He keeps both feet on the floor . . . works with a "dead" fixture.

If you want to maintain peak lighting efficiency at minimum cost, install THOMPSON HANGERS.

FOR DETAILS, WRITE FOR BROCHURE TH-57.

THE THOMPSON ELECTRIC CO.
P.O. Box 873-F, Cleveland 22, Ohio

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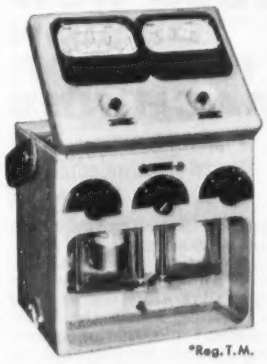

*Reg. T. M.

Size: 10⅞″ W, 11¼″ H, 8¼″ D.
Wt. 25 lb

Use this Bailey HEAT PROVER* COMBUSTION ANALYZER for 60 days!

your money back if not satisfied!

For fast, accurate combustion analysis, compare this portable unit to Orsat measurements: Less than 1-minute per check vs. 5 minutes. Continuous readings while adjusting burners. Simple, convenient to use. Pays for itself. If you're not convinced *we refund your money.*

Price: $980.00 includes HEAT PROVER Analyzer and Standard Accessories. Offer valid in continental U.S. only.

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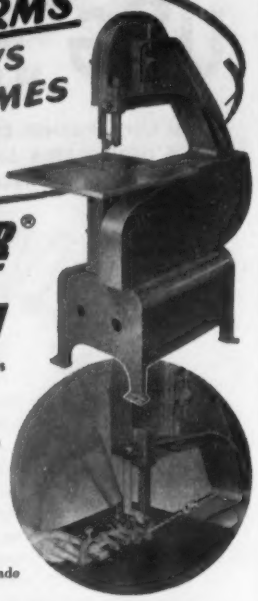

LOCKFORMER®
BETT-MARR
BAND SAW

★ 100 to 3000 F.P.M. Blade Speeds
★ 2 and 3-Wheel Models
★ 13½" and 24" Throats

Designed especially for fast, production cutting on metal, plastics or wood. Cuts iron, steel, forgings at 100 fpm, stacked galvanized sheets, bronze, brass and copper at 600 fpm, and stainless steel, wood or plastics at 3000 fpm. Compact, yet rugged enough for continuous, heavy duty cutting. Perfect blade control . . . no blade chatter. Table 20" x 22".

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TIME SAVING, MONEY MAKING EQUIPMENT

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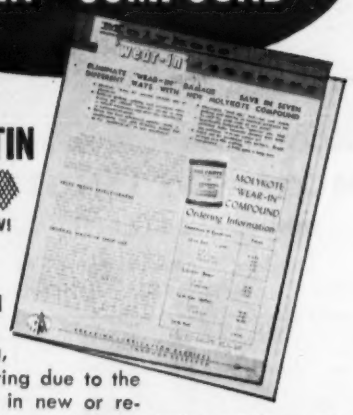
EASY-TO-APPLY "WEAR-IN" COMPOUND

COVERED IN NEW BULLETIN



GET YOUR COPY NOW!

Tells how to avoid galling, seizing welding, scuffing, scratching, and tearing due to the breaking-in process in new or rebuilt machinery. Write today for Bulletin 120 to The Alpha-Molykote Corp., Stamford, Conn. ("Research City") Phone: FIreside 8-3724.

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BOLD NEW DESIGN IN FLOOR MACHINES

50% less brush wear
25% more efficiency
Lighter; easier handling

Premier's new all-purpose floor machine now gives you scientific weight distribution. Reduced and balanced weight means that only the ends of the bristles touch the floor. New electronic starting system eliminates breaker point failure. Scrubs, waxes, polishes, shampoos, buffs, dry cleans, grinds, sands *all* floors. Models range from 12 to 22" brush sizes.

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Attention: Gordon L. Bowman, V.P. & Sales Mgr.
Please rush me FREE details on Premier Floor Machines. Thank you.

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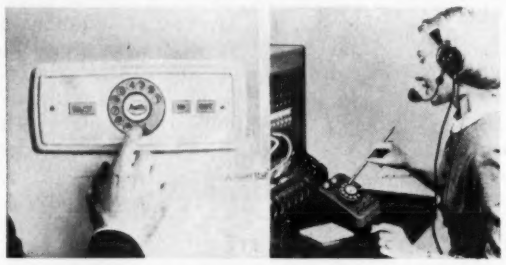
TV CAMERA MOUNT
pans camera back and forth

Heavy-duty Model ARC-11B TV camera mount will automatically pan the camera back and forth as well as up and down over an adjustable sector. Speed controls allow panning speed to be varied from 0 to 12 degrees per sec; tilting speed from 0 to 4 degrees per sec. A control panel can be up to 3000 ft from the camera. Observer of monitor screen can interrupt the scan at any moment and concentrate camera on a particular area of interest. Mount operates in salt spray, sand, and up to 100 per cent humidity conditions. Ambients can vary from 0 to 160° F, and altitudes from sea level up to 12,000 ft. Mount fits on a standard 6-in. pipe flange. Made by **Cohu Electronics, Inc.**, Kin Tel Div., 5725 Kearny Villa Rd., San Diego 12, Calif.

▲ For more details circle NED-760 D9 on enclosed inquiry slip ▲

IN-AND-OUT REGISTER
dial system automatically shows whether employees are in or out

Designed for the plant or office with many entrances and floors, the automatic Dial-IN register system quickly determines which executives and supervisory per-



sonnel are on and off the premises. A 5 x 12-in. register (shown left) placed at all entrances or floors is equipped with a dial and three lighted pushbuttons.

The employee, at his most convenient point of entry or exit, dials his assigned number and presses the "in" or "out" button. This information is recorded and stored by a central control cabinet, located in an out-of-the-way place. The telephone operator has an IN-Former unit (shown at right) which, when the employee's number is dialed, indicates whether he is in or out.

System also provides a message flash signal to the individual as he enters or leaves the building, advising him that a message is waiting for him. The easily installed Dial-IN system can also page individuals on three-digit flashing annunciators throughout the plant or office. Made by **Auth Electric Co.**, 34-20 45th St., Long Island City 1, N. Y.

▲ For more details circle NED-761 D9 on enclosed inquiry slip ▲

You get greater strength . . . with
SHENANGO CENTRIFUGAL CASTINGS

Downtime, rejects, heavy maintenance costs and too-frequent replacements can be cut down *appreciably* by the use of Shenango extra-strong centrifugal castings. They provide a finer, *pressure-dense* grain . . . with all the weakening defects eliminated, such as blowholes and sand inclusions.

Though built to stand the most rugged service, each Shenango casting is precisely-dimensioned to your exacting requirements. Whether you need rolls, bearings, bushings, mandrels, sleeves, liners, or any other essentially symmetrical part . . . *specify Shenango* for greater strength, greater wear-resistance, greater lasting power and greater savings, year after year.

For informative bulletins, write to: *Centrifugally Cast Products Division*, The Shenango Furnace Company, Dover, Ohio.

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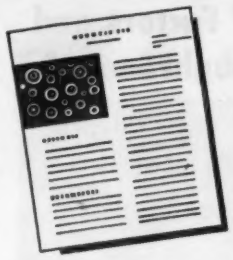
COPPER, TIN, LEAD, ZINC BRONZES • ALUMINUM AND MANGANESE BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL • ALLOY IRONS
▲ For more details circle NED-762 D9 on enclosed inquiry slip ▲



GET THE LATEST INFORMATION ON SUPER PRESSURE TUBING

FREE

Be sure to add this useful bulletin on super pressure tubing to your file of technical data. It covers sizes, tolerances, tempers, lengths, and includes a handy table of minimum burst pressures for various sizes. Other sections cover the following: single and composite wall tubing; methods of manufacture; special inspections; recommended fabrication procedures; and many applications.

Superior manufactures super pressure tubing in sizes ranging from ¼ in. OD x 3/32 in. ID, to ¾ in. OD x 1/16 in. ID. It can contain pressures varying from 15,000 to 100,000 psi. This tubing is subject to rigid testing and inspection, and all orders are 100% hydrostatically tested before shipment.

Call on Superior for all your small tubing needs. We produce tubing in over 63 analyses, including stainless, carbon and alloy steels, nickel and nickel alloys, beryllium copper, titanium and zirconium.

SEND FOR YOUR FREE COPY OF DATA MEMORANDUM #22

Superior Tube
The big name in small tubing
2018 Germantown Ave.
NORRISTOWN, PA.
All analyses .010 in. to ⅝ in. OD—certain analyses in light walls up to 2½ in. OD
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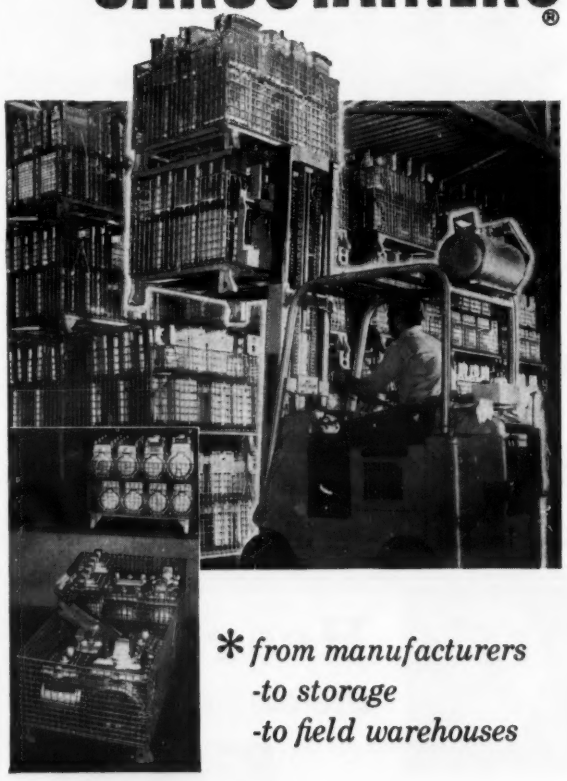
HOW a Large Southwestern Utility
Reduced—
MATERIAL HANDLING COSTS
with CARGOTAINERS®



** from manufacturers*
-to storage
-to field warehouses

This utility company had over half a million meters in service and required 40,000 new installations annually. The cost of individual handling of meters, regulators and other equipment was high. Inventory control was expensive.

About two years ago they began the experimental use of CARGOTAINERS and have since standardized on them because: 1) Meters and other equipment are shipped in them direct from manufacturers. 2) These containers are unloaded by fork-lift truck in minutes and stacked four-high in storage. 3) They provide visible inventory. 4) Needs of eight divisional bases are met without removal of contents. 5) Collapsed when not in use, they are conveniently stacked.

CARGOTAINERS are available in sizes to suit *your* material handling needs. Write today for complete information and prices.

CARGOTAINER
DIVISION
TRI-STATE ENGINEERING COMPANY
WASHINGTON, PENNSYLVANIA
mhi MEMBER
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Hose and hose fittings are easy to select from this 72-page Parker Catalog

It's easy to choose the best Parker Hose and Parker Hose Fittings to handle practically any gas from air to freon, practically any liquid from water to synthetic hydraulic fluids from the data, specs, and recommendations in the complete Parker Hose Fittings and Hose Catalog 4400. Also includes useful information on assembling both standard and Parker "no-skive" Hoze-Lok Fittings to 15 types of Parker Hose.

Your Parker Hose Fittings and Hose distributor, listed in the Yellow Pages, can furnish you a copy. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

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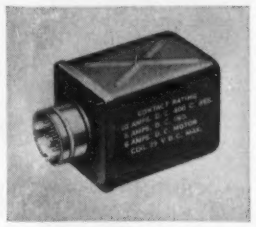
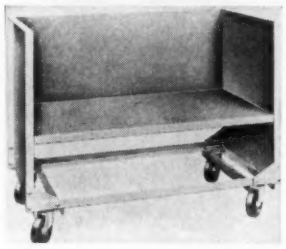
SEALED RELAY
four-pole unit rated at 10 amp



Maximum operating voltage of the Series 3205 hermetically sealed relay is 29 v dc and pick-up voltage is 18 v dc maximum at 120° C and 15 v dc at 25° C. It meets Specification MIL-R-6106-B, Class B. Drop-out voltage is 6.7 v at 25° C and 8 v plus 0-6.5 v dc at 120° C. Contact rating for resistive alternating and direct current, normally open or closed, is 10 amp. Contact rating for inductive direct current or motor direct current is 6 amp, normally open or closed. Duetsch DM 5600 Series of miniature receptacles provides hermetic sealing against high forces, heat and cold, pressure variation, vibration, and corrosion. Made by **Guardian Electric Mfg. Co.**, 1621 W. Walnut St., Chicago 12, Ill.

▲ For more details circle NED-768 D9 on enclosed inquiry slip ▲

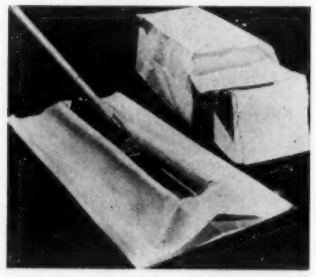
MATERIALS HANDLING TRUCKS
offered in 16 different styles



Built of heavy sheet steel with smooth interiors, this line of materials handling hand trucks has 5-in. diameter hard or soft rubber casters as standard equipment, with 3 to 8 in. wheels optional. Trucks are made in 16 different styles, each in four standard sizes. Included are platform bin, table, shelf, and box types for a wide variety of requirements. Special sizes and adaptations can be furnished. Made by **Wilder Mfg. Co.**, Port Jervis, N. Y.

▲ For more details circle NED-769 D9 on enclosed inquiry slip ▲

DUSTLESS CLEANING CLOTHS
nonwoven types are disposable



Emulsion impregnated in Masslinn disposable cleaning cloths absorbs and retains dust and dirt, leaving cleaned floors polished with no slip hazard. The dustless cloths are made of a nonwoven fabric and can also be used for other polishing and dusting uses. Sweeping tool holding a cloth enables the worker to clean floors and walls in all directions, and to reach under furniture and obstructions. Cloth is quickly changed without touching soiled parts. White glassine-lined bag contains 50 folded 24 x 24-in. cloths. Made by **Chicopee Mills, Inc.**, Non-Woven Fabrics Div., 47 Worth St., New York 13, N. Y.

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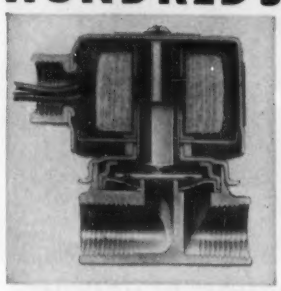
HUNDREDS OF USES!



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INDUSTRIAL
SOLENOID VALVES

Uniquely suitable for industrial flow control of water, air, low pressure steam, light oils, brines, industrial and L.P. gases, etc.

These remarkable new valves have been successfully used to control air and fluid flow in connection with such varied products as

COMMERCIAL GARBAGE DISPOSALS, DISHWASHERS, AUTOMATIC LAWN SPRINKLERS, SPRAY PONDS, WATER SOFTENERS, AIR COMPRESSORS, HOT WATER HEATING SYSTEMS, SPRAY LUBRICATION SYSTEMS, PNEUMATIC TOOLS, etc.

5/16" to 1½" Port Sizes ¼" to 1½" N.P.T. Connections.

To see how "J-E" industrial solenoid valves can solve your flow problems—write for bulletin J-57.

JACKES-EVANS MANUFACTURING CO.
4427 Geraldine Ave., St. Louis 15, Mo.

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HORIZONTAL DOORS:
heavy-duty weathertight

spring-balanced for easy opening!

Choose Bilco doors to replace those ponderous, old-fashioned floor- and sidewalk-access doors. Bilco spring-balanced doors feature built-in drainage, long trouble-free life.

FREE CATALOG

Tells all you need to know about sidewalk and basement doors, roof scuttles, ceiling doors and flush floor doors; measurements, weights, specification data!

Bilco®
The Bilco Co., Dept. A164 New Haven Conn.,
HORIZONTAL SPRING-OPERATED DOORS

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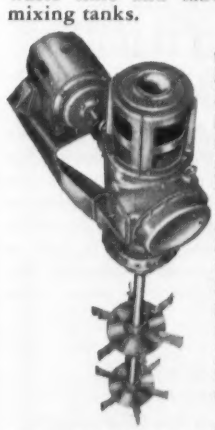
Save money... mix fluids without special tanks

Make any open container a mixing vessel . . . with a LIGHTNIN Portable Mixer

Take this short cut to more profitable production! Don't waste time and labor transferring fluids to special mixing tanks.



HOW BIG is the mixing job? There's a LIGHTNIN to handle it! Permanent-mounting models for open or closed tanks up to 6 million gallons. Sizes ¼ to 500 HP. Send for descriptive Catalog B-109.

Power-mix them right where they are—in can, drum, pail, or kettle—with a LIGHTNIN Portable Mixer.

Fast, thorough. Just clamp the right size LIGHTNIN in place and flip a switch. Stir paint, chemicals, glaze. Dissolve fine powders, mix heavy slurries. Keep products from burning while heating. Powerful LIGHTNIN propeller stream *tumbles* and *rotates* the batch for complete uniformity, usually in a few seconds.

No risk. Your mixing results are unconditionally guaranteed when you mix with LIGHTNINS. Thousands are in use, many 25 years and more.

Thirty portable models to choose from. All have ball-bearing motor; quickly removable true-running shaft; instant locking in any position. Sizes ⅛ to 3 HP. For full details, request 28-page illustrated Catalog B-108.

Lightnin® Mixers
MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-d Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.

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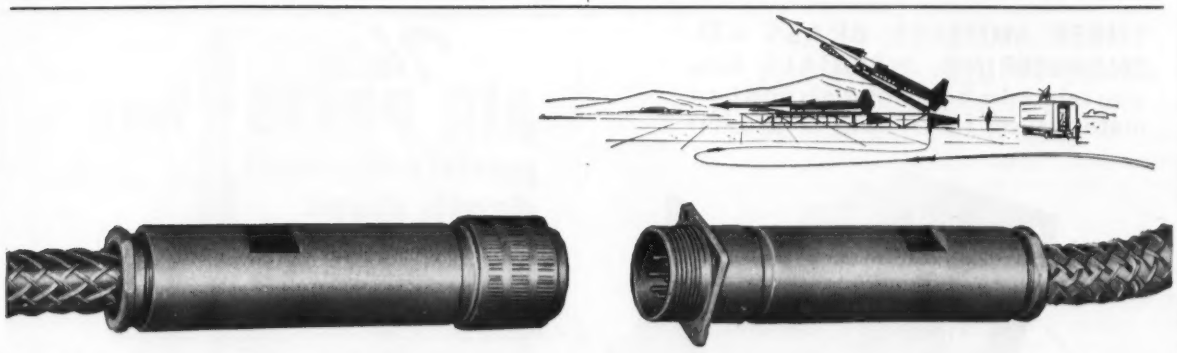

Why it pays you to specify

Bendix QWL Electrical Connectors for use with Multi-conductor Cable

For use with multi-conductor cable on missile launching, ground radar, and other equipment, the Bendix* QWL Electrical Connector meets the highest standards of design and performance.

A heavy-duty waterproof power and control connector, the QWL Series provides outstanding features: • The strength of machined bar stock aluminum with shock resistance and pressurization of resilient inserts. • The fast mating and disconnecting of a modified double stub thread. • The resistance to loosening under vibration provided by special tapered cross-section thread design. (Easily hand cleaned when contaminated with mud or sand.) • The outstanding resistance to corrosion and abrasion of an aluminum surface with the case hardening effect of Alumilite 225 anodic finish. • The firm anchoring of cable and effective waterproofing provided by the cable-compressing gland used within the cable accessory. • The watertight connector assembly assured by neoprene sealing gaskets. • The additional cable locking produced by a cable accessory designed to accommodate a Kellems stainless steel wire strain relief grip. • Prevention of inadvertent loosening insured by a left-hand accessory thread. • The high current capacity and low voltage drop of high-grade copper alloy contacts. Contact sizes 16 and 12 are closed entry design.

These are a few of the reasons it will pay you to specify the Bendix QWL electrical connector for the job that requires exceptional performance over long periods of time. *TRADEMARK

Export Sales and Service: Bendix International Division, 205 E. 42nd St., New York 17, N. Y. Canadian Affiliate: Aviation Electric Ltd., 200 Laurentien Blvd., Montreal 9, Quebec. Factory Branch Offices: Burbank, Calif.; Orlando, Florida; Chicago, Ill.; Teaneck, New Jersey; Dallas, Texas; Seattle, Washington; Washington, D. C.

Scintilla Division
Sidney, New York

Bendix AVIATION CORPORATION

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PRESSURE SENSITIVE TRANSFER FILM

An instant bonding medium for the temporary or permanent bonding of a full variety of porous and non-porous materials. Double-Face is a translucent adhesive film reinforced by a non-woven tissue and supported for shipping handling and storage by a release-coated protective paper. More versatile than a single or double coated tape.

- 72 linear yard rolls in widths ⅜" up to 54"
- Conforms to irregular surfaces
- Permits better bond of porous surfaces
- Can be slit or die cut with release paper in place
- High-speed applicator available
- Dry-edge release paper available in some widths

Write for free literature and sample.

ANGIER ADHESIVES
INTERCHEMICAL CORPORATION
Finishes Division
120 Potter St., Cambridge 42, Mass. Midwestern Plant: Huntington, Indiana

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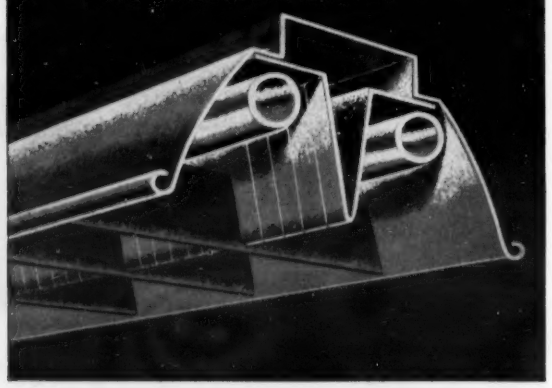
FOR BETTER REFLECTORS ...USE ALUMINUM



For the best reflectors in lighting fixtures, specify Alcoa® Lighting Sheet. This lightweight, easy-to-handle sheet is made in both diffuse and specular reflecting surfaces and it is available through Alcoa's Jobbing Division and Alcoa Distributors. It has the famous Alzak® finish, Alcoa's unique treatment that defies corrosion and produces excellent, lasting reflectivity. For more information, call your nearest Alcoa sales office.

FREE TO MANUFACTURERS. In addition to such "standard" items as lighting sheet, Alcoa's Jobbing Division has the world's finest aluminum fabricating facilities for subcontracting to your order any aluminum components for anything you make. A sixteen-page booklet describes how these facilities can save you tooling-up costs, lighten your production load and generally cost less than if you shouldered the whole job yourself. For your copy, write or clip and mail the coupon.

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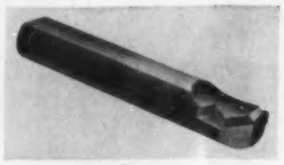
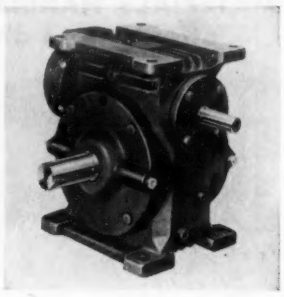
BORING BARS use throw-away inserts



Two styles of standard boring bars using throw-away carbide inserts are designed for operations not requiring micro-adjustment of diameter. They have either negative or positive 5-degree rake. Style AS boring tools are used with square carbide inserts for straight boring, and Style AT tools use triangular inserts for boring and facing. Both are available right or left hand with carbide anvils and clamps of steel or carbide. Sizes range from 1¾ to 3 in. Optional carbide-tipped chip-breaker clamps are made to customer specifications. Made by **Wesson Co.**, 1220 Woodward Heights Blvd., Ferndale 20, Mich.

▲ For more details circle NED-775 D9 on enclosed inquiry slip ▲

SPEED REDUCERS in up to 7240 lb-in. torque ratings



This universal worm gear speed reducer can be mounted with worm shaft below gear, worm shaft above gear, or output shaft vertical. Units are offered in 2½, 3, 3½, and 4-in. centers with up to 13½-hp input rating and 7240 lb-in. output torque rating. An aluminum radial fan directs air over the external fins of the one-piece cast iron housing. Made by **Link-Belt Co.**, Prudential Plaza, Chicago 1, Ill.

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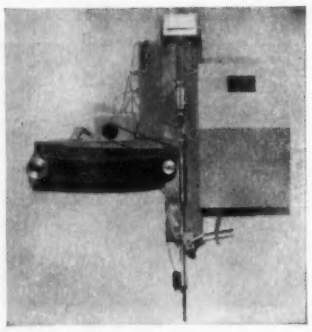
AUTOMATIC MARKING MACHINES electrolytic type for small parts



Plating, etching, and oxide marking methods are available in these electrolytic marking machines for production marking of small or fragile parts. Any type of lettering or line drawing can be permanently marked on any conductive material. Machine shown is used to mark saw blades, cutlery, electronic and engine parts, gages, bearings, and drills. It handles tool bits at a rate of 3180 pieces per hour. Machine is magazine, hopper, or dial fed and can be bench or floor mounted. Made by **Electromark Corp.**, 2093 E. 19th St., Cleveland 15, Ohio.

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THESE MUELLER BRASS CO. ENGINEERING MANUALS help you select the best materials and best methods of fabricating a product

Mueller Brass Co. engineers have carefully selected and compiled the data contained in these technical manuals. Send for any or all of the free manuals that interest you; check appropriate box, clip out and mail with your return address.

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- ☐ 600 SERIES BEARING ALLOYS
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- ☐ COLD-PREST IMPACT EXTRUSIONS
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MUELLER BRASS CO. PORT HURON 37, MICHIGAN

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How Ni-Rod "55" builds up worn cast iron

...keeps repair cost down

Ni-Rod "55"* can be used to build up worn areas in almost all cast iron parts. Auto, truck, or ship pistons . . . valve seats . . . cylinder walls . . . are just a few. And the cost is just a fraction of what replacement would cost. What's more, with Ni-Rod "55", the repair is done quickly and easily. Welds are strong, sound, highly machinable.

Write for "Repair Cast Iron Parts Quickly and Easily" for the complete Ni-Rod "55" story.

The INTERNATIONAL NICKEL COMPANY, Inc.
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INCO TRADE MARK **Welding Products**
Electrodes • Wires • Fluxes

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STOP ELECTRICAL TROUBLES *before they begin with the* **COLUMBIA VOLT-AMMETER**

Know how much current your equipment is pulling . . . spot overloads and short-circuits . . . balance loads . . . minimize electrical hazards. Columbia Type AC-1 Volt-Ammeter saves time, gives accurate readings up to 600 amperes and 600 volts on frequencies from 25 to 400 cycles. Conveniently sized, easy to use. Switch allows operator to quickly select AC ranges: 0/12/60/120/600 amperes; 0/150/600 volts. Readings are taken without circuit interruption. Insulated jaws accommodate conductors up to 1½" diameter or bus bars to 2" x ½".

$57.50 with Voltage Leads and Carrying Case

Write today for Bulletin AC-25 *Immediate Delivery*

COLUMBIA
COLUMBIA ELECTRIC MFG. CO.
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This **AIR PRESS has positive, exact depth stops**

Many job changes can be made by quick, simple stop nuts, without touching column adjustment. Rigid, solid steel column, and heavy surface-ground base.

One of nine sizes and models in the great dependable Mead Air Press line.

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

Write for complete information!

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PATHFINDER IN AIR POWER AUTOMATION

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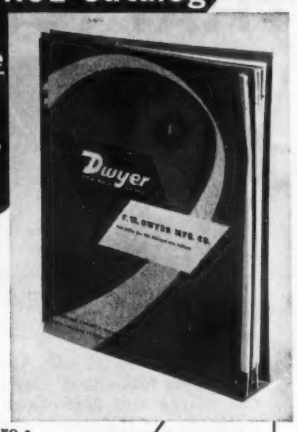
NEW 72-page GAGE and CONTROL Catalog

..tells where to use them..

..WHY and HOW!



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For the efficient measurement of combustion • draft • pressure • flow • vacuum • co_2 • smoke • velocity • static pressure • pressure differential • temperature • and others.

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P.O. BOX 373-Q, MICHIGAN CITY, INDIANA

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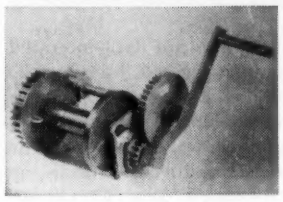
VAPOR DEGREASER
cleans 300 lb of steel per hr

Lightweight, portable Scotsman vapor degreaser will economically clean up to 300 lb of steel per hour. Unit operates on 220 v and has a heavy-duty vapor control and high temperature shut-off to minimize fire hazard. Immersion type heater is removable for easy clean-out. Zinc coated steel tank has 6-gal solvent capacity. Made by **Phillips Mfg. Co.**, 3475 Touhy Ave., Chicago 45, Ill.

▲ For more details circle NED-785 D9 on enclosed inquiry slip ▲

BACK-GEARED WINCH
2500-lb unit has ratchet control

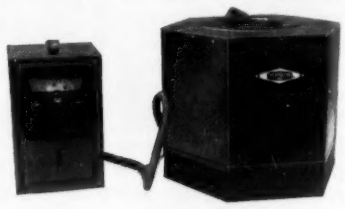


Control of this Model 44W 2500-lb capacity back-geared winch is afforded by spring and pawl which can be engaged or disengaged easily with a ratchet wheel. Features include cast semisteel gears, large bearings, removable handle, and free-turning sleeve on handle for hand comfort. Made by **Thern Machine Co.**, 3760 W. Fourth St., Winona, Minn.

▲ For more details circle NED-786 D9 on enclosed inquiry slip ▲

ELECTRIC FURNACE
multiuse type is top loading

Type 2100 Thermolyne electric furnace is adaptable for pilot and short run production in salt bath, melting, vertical muffle, or crucible use. Basic top-loading unit includes the hexagonal furnace with $6\frac{5}{8}$ in. diameter by $11\frac{1}{2}$-in. deep chamber, stainless pot which has a $6\frac{1}{2}$-in. diameter by $7\frac{1}{2}$-in. depth, lifting handle, and thermocouple in a protective tube. Operation is on 115 or 230 v. Three separate types of insulation minimize heat loss. Heavy gage nickel-chromium heating coils are supported by refractory. Several types of manual and automatic controls are offered. Refractory ladle, refractory chamber liner, and insulated cover are accessories. Made by **Thermo Electric Mfg. Co.**, 484 Huff St., Dubuque, Iowa.



▲ For more details circle NED-787 D9 on enclosed inquiry slip ▲

Outwears canvas 5 to 1

► **New Werx glove replaces canvas and goatskin at 40 to 80% saving.** A new vinyl impregnated fabric. Gives amazing wear, yet is light, flexible, cool. Sure-gripping, lint-free, washable. Men's and women's sizes, slip-on or knitwrist styles.

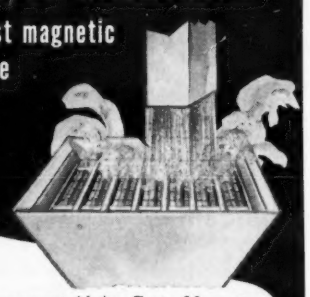
► **Free Test Offer to Listed Firms:** We will supply samples of this Werx glove for comparison-test on jobs where you are now using canvas or goatskin gloves. Specify men's or women's size. Edmont Manufacturing Company, 1240 Walnut Street, Coshocton, Ohio. In Canada write MSA, Toronto.

WERX a new Edmont job-fitted glove

▲ For more details circle NED-788 D9 on enclosed inquiry slip ▲

DINGS GRATE MAGNETS

for positive, low-cost magnetic protection in trouble spots that are difficult to guard



Under, over or in steep-sloped hoppers

Mounted in floor openings

Drawer-type for vertical ducts

At discharge end of conveyors or spouts

Dings Permanent Alnico Grate Magnets assure positive protection from tramp iron damage in trouble spots which never before could be effectively guarded. They are the only units of this type designed with unshielded magnets which contact the material directly to provide powerful attraction for fine particles of fuzz iron as well as larger pieces of tramp iron. Recommended for powders and granular materials. Both wing and drawer types available in sizes and shapes for every need.

Write for details in Bulletin 1213A.

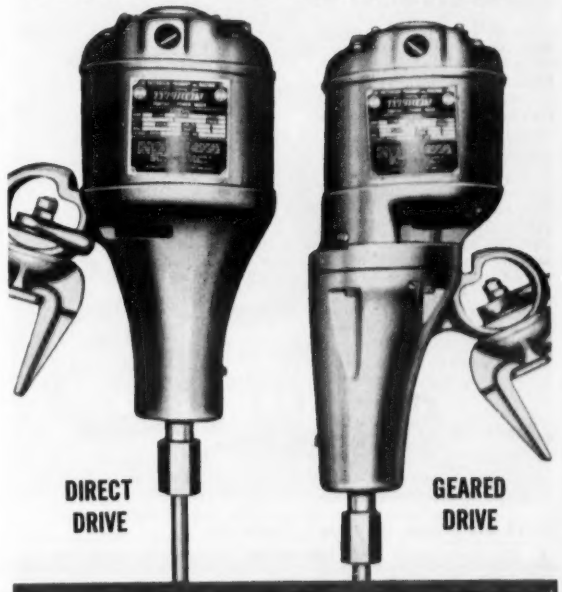
DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave.
Milwaukee 46, Wis.
PG-157-1/9

Dings

▲ For more details circle NED-783 D9 on enclosed inquiry slip ▲

FOR LOWEST COST BATCH MIXING!

THE Patterson TYPHOON
PORTABLE POWER MIXERS



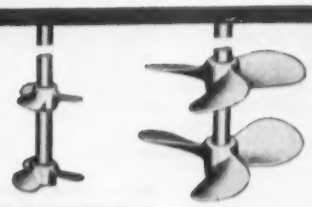
DIRECT DRIVE

GEARED DRIVE

QUALITY CONSTRUCTION
ECONOMICALLY PRICED
IMMEDIATE DELIVERY

Built for continuous, heavy-duty service, Patterson TYPHOON handles efficiently a wide range of mixing applications, with the ease of portability that makes it practical to use one Typhoon for several vessels—assuring lowest possible mixing costs. Quality construction includes locking adjustment for any operating angle; balanced, fully adjustable propellers; wide-spaced bearings; propellers and shaft of any desired metal.

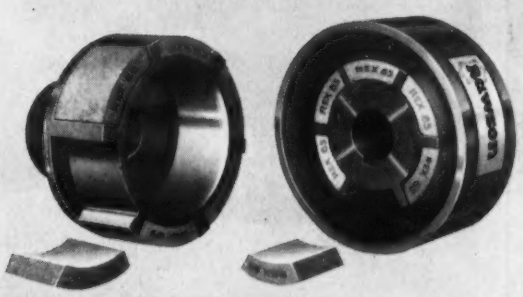
Direct Drive models handle solutions to 500 centipoises—Geared Drive to 4000 centipoises. Open or explosion-proof motors, ¼ to ¾ H.P. Write for Bulletin and prices.



THE Patterson FOUNDRY AND MACHINE COMPANY
A Division of Ferro Corporation
East Liverpool, Ohio

▲ For more details circle NED-789 D9 on enclosed inquiry slip ▲

NEW RAWSON
Automatic Centrifugal Clutches and Clutch Couplings



- Cushioned "No Load" Starts
- Longer Service—Greater Capacity
- 100% Slip-Free Power
- Positive Overload Protection
- Effective Heat Dissipation
- Lower Maintenance and Inspection

FLUID-SMOOTH STARTS FOR HIGH INERTIA LOADS

Rawson clutches and clutch couplings utilize *metallic* friction shoes. As the driving half of the clutch picks up speed, centrifugal force moves the shoes outward to contact the inside surface of the driven half of clutch.

Shoes make smooth contact and slip momentarily until friction causes driven half of clutch to rotate. Complete engagement of shoes is obtained when driven equipment reaches full speed. Then, both halves of clutch rotate as a unit with no slippage, no power loss.

Send for Free Catalog containing complete information on the full line of Rawson Automatic Centrifugal Clutches and Clutch Couplings.

FORMSPRAG COMPANY
23595 Hoover Road, Dept. 101
Warren (Detroit), Michigan

Distributorships available in selected areas. Write for details.

Patent Pending

FORMSPRAG COMPANY
World's Largest Exclusive Manufacturer of Over-running Clutches

▲ For more details circle NED-784 D9 on enclosed inquiry slip ▲

More steel can be stored in a warehouse when Cleveland Tramrail transfer cranes are provided, because aisleways are not needed. It is easier, safer, quicker to move. Transfer cranes in different building bays may be interlocked, either directly or to a common cross-over track, permitting loads being transferred from one crane to another, thus enabling delivery between all points without re-handling.

GET THIS BOOK

Sent free on request. Or ask for Tramrail Engineer to give ideas.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6644 East 285th St., Wickliffe, O.

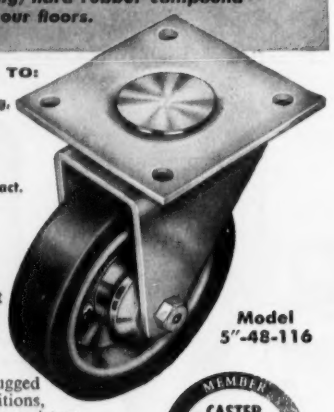
CLEVELAND TRAMRAIL

For more details circle NED-790 D9 on enclosed inquiry slip

NOISELESS CASTERS WITH "JARVITE"

the long wearing, hard rubber compound that's kind to your floors.

PROVED RESISTANT TO:
Steam and Hot Water Cleaning, Wide Temperature Extremes 32° to 100° F. Sanitation Treatment, Fats, Fruit Acids, Milk Acids, High Humidity, Chipping, Impact.



"Jarvite" withstands heavy loads (up to 1800 lbs. on four 5" casters) without flattening, yet permits smooth movement over fine wood floors without gouging, marking or rutting the surface. Model 48-116 casters are designed throughout for rugged resistance to adverse conditions, particularly those involving moisture and extremes of temperature.

Model 5"-48-116

MEMBER CASTER AND FLOOR TRUCK MANUFACTURER'S ASSOCIATION

Jarvis and Jarvis, Inc. PALMER, MASSACHUSETTS

Sales Representatives in Leading Cities Throughout the Country

Sold through Quality Dealers

Jarvis & Jarvis of Canada, 1744 William St., Montreal, Que.

For more details circle NED-791 D9 on enclosed inquiry slip

RUGGED McGILL® portable lampguards last longer

McGill portable lampguards are designed and built specifically to take the punishment of industrial use. Their use avoids frequent and costly replacement. Extra heavy cages are electrically welded and zinc-plated with chromate finish. Choice of handles include neoprene-butyl, wood and impact resistant molded phenolic. With LEVOLIER switches and 660 watt 250 volt sockets, McGill portables offer much more service for little more in price.

No. 7100-SR Gray neoprene-butyl handle, reflector. No Rol cage switch. Thumb clamp allows quick lamp changing without tools.

Available from your Electrical wholesaler

Write for McGILL catalog No. 84

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO., INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

For more details circle NED-792 D9 on enclosed inquiry slip

METAL-FLOWING MACHINE produces wide variety of conical, cylindrical, or contoured shapes

Parts with diameters up to 16 in. and lengths to 15 in. can be produced by the No. 12 Vertical Floturn machine, using metal forming or flowing in an automatic cycle which may include automatic loading and unloading. Design incorporates radially opposed Dual-Sincro rollers which virtually eliminate deflection and an automatic hydraulic tracer control for "pushbutton" production of complex shapes.

Conical, cylindrical, or contoured shapes, or combinations of these shapes, are produced from flat, preformed, or machined blanks of almost any metal or alloy. Automatic compensation for blank thickness variations is provided.

All electrical control equipment is in a floor-mounted cabinet which may be remotely located. Hydraulic system elements mounted on the fluid reservoir are a 15-hp motor, four pumps, and solenoid valves. Main drive motor is 40 hp. Photo shows close-up of the machine and typical products produced. Made by **Lodge & Shipley Co.**, 3016 Colerain Ave., Cincinnati 25, Ohio.

For more details circle NED-793 D9 on enclosed inquiry slip

ULTRASONIC CLEANER system in counter-height cabinets

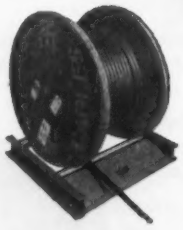
Complete ultrasonic cleaning systems are housed in matched counter-height cabinets of uniform dimensions. Sonogen generator, cleaning tank, filter, rinse tank, and dryer are contained in 26 x 24 x 32-in. Series C cabinets of welded 16-gage Type 316L stainless steel. Many different combinations and arrangements are possible, depending upon the user's needs. R-F output of the ultrasonic generator at 40 kc is 500 w average, or 2000 w peak on pulses. Power input is 1.5 kw, 115-v ac 50 to 60 cycles, or 220-v single phase ac. Stainless steel recirculating filter has a removable cartridge with 3 to 5-micron retention. A 1-micron unit is available. A 6-kw strip heater is thermostatically controlled. Spray or immersion rinsing is possible in the rinse tank. Made by **Branson Ultrasonic Corp.**, 40 Brown House Rd., Stamford, Conn.

For more details circle NED-794 D9 on enclosed inquiry slip

Style "B" 4,000 lbs. cap. for 2 reels up to 24 in. wide each or 1 reel up to 48 in. wide. (weight 110#) PRICE — $84.50 F. O. B. Cincinnati

Lowest Cost . . . Least Effort
HANDLE REELS THE MODERN WAY

Put the "eeze" in handling reels, fast, easy, efficient, safe.



Style "A" 2,000 lbs. cap. for reels up to 28 in. wide. (weight 60#) PRICE — $46.50 F. O. B. Cincinnati

WIRE-ROPE-CABLE

- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing adjustable rollers
- Positive roller lock for unloading

(SPECIAL SIZES QUOTED ON REQUEST.)

Order today . . . or write for details

ROLL•A•REEL 4630 Reading Road Cincinnati 29, Ohio

For more details circle NED-795 D9 on enclosed inquiry slip

FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

available with privacy handset, light and chime signals

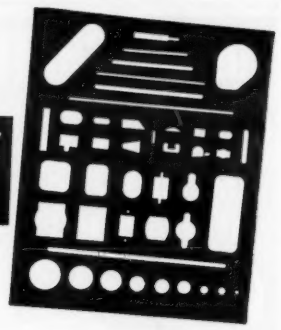
AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.

For more details circle NED-796 D9 on enclosed inquiry slip

BERNAL THE REAL KNOCK-OUT PUNCH



Eliminate Stripping After Die Cutting

Bernal self-stripping irregular shapes and thin line punches provide absolute precision on the job.

Engineered to satisfy the most critical tolerances of Automotive, Aircraft, Radio and Television Industries.

For Die Cutting:—automotive body panel trim. Masonite panel boards for radio and tv.

- Leather
- Rubber
- Plastic
- Asbestos
- Gaskets
- Foundation Board
- Fibre Board
- Carton Board
- Display Material

and almost any material that is to be die cut—with the time savings made available with these self-stripping punches

Write for chart of standards that are available from stock.

BERNAL TOOL & MACHINE CO.
18624 Mt. Elliott Ave. • Detroit 34, Michigan

For more details circle NED-797 D9 on enclosed inquiry slip

whatever you mark . . . save money, time and material with a MARKEM METHOD

Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM

EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

For more details circle NED-798 D9 on enclosed inquiry slip

perfect sealer

for every joint!

SHOCK RESISTANT ADHESIVE

quickly forms tight seal on porous materials.

For threaded and flanged connections.

Withstands heat up to 350°F.

Impervious to oil, gasoline, kerosene, water, steam and glycol.

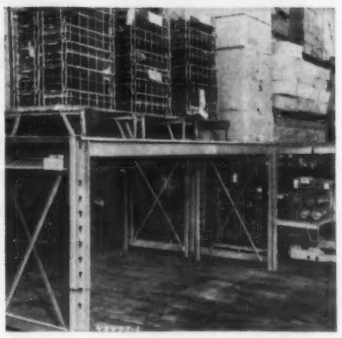
Comes in handy 2 oz. or 6 oz. tube, quarts and gallons.

Write for sample

SAMUEL CABOT INC., 432 Oliver Bldg., Boston 9, Mass.

▲ For more details circle **NED-799 D9** on enclosed inquiry slip ▲

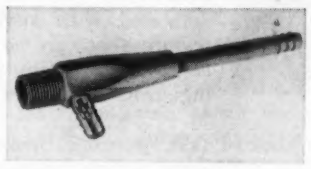
STORAGE RACK
one-shelf unit is adjustable



Elimination of front or back sway bracing, even with heavy loads stored to any height, gives full access to the front and back of this adjustable one-shelf storage rack. Two-step assembly allows erection in a few minutes. Only parts are vertical uprights and cross bars which hook into double slots set at an angle on the uprights at the height desired. Made by **Palmer-Shile Co.,** 16015 Fullerton St., Detroit 27, Mich.

▲ For more details circle **NED-801 D9** on enclosed inquiry slip ▲

WATER ASPIRATOR
made of brass and stainless steel



Nonfouling valve consisting of a stainless steel ball and ball socket is a feature of the corrosion resistant CRC Airexpelor water aspirator. A ¼-in. female thread and ⅜-in. male thread form the faucet connection at the top of the unit. Suction hose connection is located on the side arm above the water outlet. Length is 5½ in. Uses include filtering in industrial and research laboratories and as a vacuum suction tool. Made by **Chemical Rubber Co.,** Special Products Div., 2310 Superior Ave., Cleveland 14, Ohio.

▲ For more details circle **NED-802 D9** on enclosed inquiry slip ▲

POLYETHYLENE BAG
offers positive moisture barrier

Flush Chipp-a-Weld sealing technique used in this heavy duty polyethylene bag makes the sealed areas virtually as strong as the tough, transparent plastic film itself. Seal provides more usable bag area by eliminating dust-catching lips. Bag can be used for shipping such products as flour, chemicals, sugar, and fertilizers which require a positive moisture barrier. It is chemically resistant, waterproof, and has salvage value for the end user of the contents. Open-mouth type with sealed bottom and top and bottom sealed type which is mitercut for valve type fillers are closed with regular sealing equipment. Made by **Chippewa Plastics, Inc.,** Chippewa Falls, Wis.

▲ For more details circle **NED-803 D9** on enclosed inquiry slip ▲

VERSATILE-

NEW PLUG-IN STEAM GENERATOR

Easily Converted to a Steam-Jet Cleaner!

For plug-in operation on 110- and 220-volt circuits, the compact, ASME Code Series "R" SPEEDYLECTRIC steam generators are ideal for pilot plant and production processes requiring small volumes of high-pressure steam. This unit features safe, electrode heating with precise current control. Easily converts to a Steam Jet Cleaner. Write today for Bulletin SG-200.

Pantex See our catalog in Sweet's Plant Engineering File
MANUFACTURING CORPORATION
9-028 P. O. Box 660 Z, Pawtucket 4, Rhode Island

▲ For more details circle **NED-805 D9** on enclosed inquiry slip ▲

For

DUMB WAITERS
BOOK LIFTS
RECORD CARRIERS

Consult

MATOT

Since 1888 designers and builders of electrical and hand operated dumb waiters for hotels, restaurants, clubs, banks, libraries, warehouses, factories, institutions.

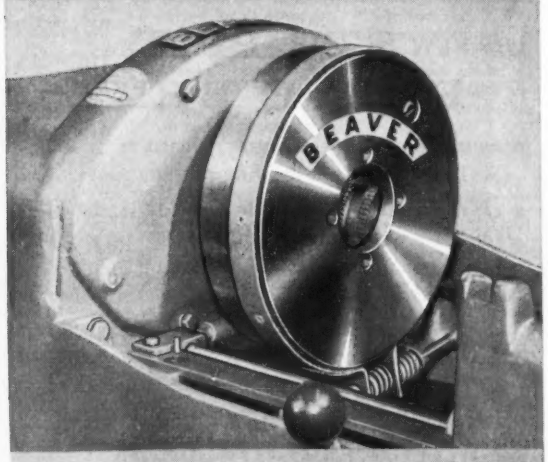
COMPLETE DATA IN SWEET'S CATALOG OR WRITE

D. A. MATOT, Inc.

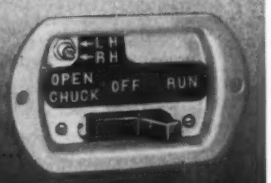
1535 W. ALTGELD STREET · CHICAGO 14, ILLINOIS

▲ For more details circle **NED-806 D9** on enclosed inquiry slip ▲

CHUCK THAT PIPE "Electrimatically" FOR *SPEEDIER* PRODUCTION



The BEAVER *Electrimatic* Chuck grips forward or reverse the instant you flip the switch...



Available on BEAVER Speed-O-Matic or Model A Pipe and Bolt Machines

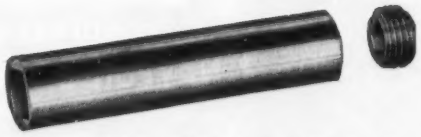
BEAVER *Send for complete catalog and name of nearest distributor*

PIPE TOOLS, INC.

DANA AVE.
WARREN, OHIO

▲ For more details circle **NED-800 D9** on enclosed inquiry slip ▲

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

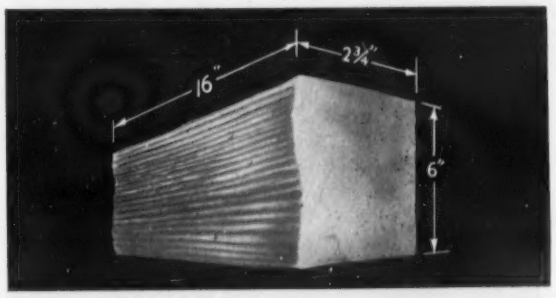
The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES:
3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., DETROIT 41, MICH.

▲ For more details circle **NED-804 D9** on enclosed inquiry slip ▲



How long did it take to gouge out this 64 cubic inches of steel?

Fourteen hours' time were formerly required to chip 64 cubic inches of metal from a 5-ton reaction-type turbine casting. Using the Arcair cutting and gouging torch the job was done in 1½ hours, saving this company 12½ hours of costly, hard work, not counting clean-up time formerly required—and completely eliminated with the Arcair process!

You can cut, gouge, bevel or groove **any** metal using the Arcair process—and get similar dramatic cost savings, with an investment of much less than $100.

WHAT'S YOUR PROBLEM? If you have a specific metal removal problem, or would like additional information, write us. We'll give you a speedy and sincere answer. Or, ask your welding supply distributor.

Arcair

THE ARCAIR CO., 449 S. Mt. Pleasant St., Lancaster, Ohio
Send more information on ARCAIR TORCHES and COPPERCLAD ELECTRODES.

Name _____ Title _____
Company _____
Address _____ City _____ State _____
MY PROBLEM _____

▲ For more details circle **NED-807 D9** on enclosed inquiry slip ▲

264 different models in stock

Equipto modern-flow BENCHES

That's right! 264 different models of custom designed benches available to you at assembly line prices. Available with many types and styles of drawers, drawer pedestals, cabinet pedestals, sliding doors, aerial shelves and a choice of 4 different tops in various lengths.

Why not find out the whole story today. Write for big 16 page Catalog No. 204 illustrating and describing this outstanding line of top quality benches.

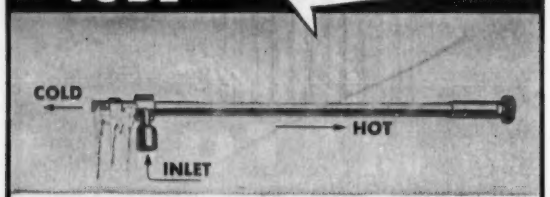
Equipto 690 Prairie Avenue Aurora, Illinois

Manufacturer of World's Finest Steel Shelving-Slotted Angle-Bins-Drawer Units-Lockers-Carts-Benches.

For more details circle NED-808 D9 on enclosed inquiry slip

FISHER® HILSCH VORTEX TUBE

HOT AND COLD Running Air



Air pressure is introduced into the entry nozzle of the tube and hot air will leave at the long end of the tube. Cold air will exit out the short end.

We know this sounds impossible, but be assured if 60 psi air supply is connected to the Fisher Model SS-8 vortex tube, there will be a 60 degree drop in temperature of air coming out the cold end of the tube with a flow of 6 CFM. Temperature of air leaving tube is adjustable by inlet pressure and by throttling small needle valve at end of tube.

This is not a novelty or toy as many laboratories and industrial concerns have found the Fisher Vortex tube to be the answer to their small scale refrigeration or cooling requirement where conventional refrigerating would be too expensive and cumbersome.

Write for Bulletin K-8.

FISHER GOVERNOR COMPANY
Marshalltown, Iowa • Woodstock, Ontario

For more details circle NED-809 D9 on enclosed inquiry slip

Here's one way...

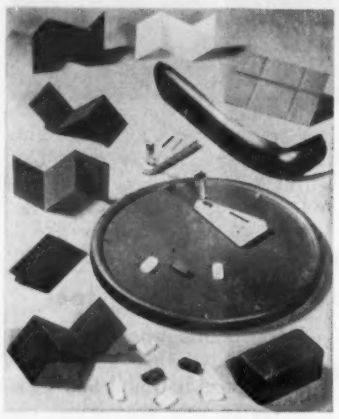
to clear the air of heat, smoke, fumes and other irritating elements. Hartzell roof ventilators do the job more effectively and economically. Send for Bulletin A 112.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio A member of AMCA

For more details circle NED-810 D9 on enclosed inquiry slip

New Processes and Materials

VINYL-COATED STEEL SHEET offered in wide variety of textures for fabrication by various methods



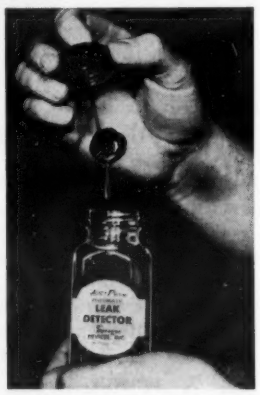
Bonding of liquid vinyl plastisols to cold rolled or galvanized steel sheets and coils in a continuous coating process forms USS vinyl - coated sheet, suited for a wide variety of applications in many fields. Prior to cooling the coating can be embossed with any texture that can be engraved on a printing roll. Textures include linen and leather.

Coated sheets can be sheared, slit, punched, lock seamed, stamped, drawn, or roll-formed without damage to the coating or change in color. Material can also be welded by four techniques, with current flow controlled from the back side as the vinyl is an insulator. Wide variety of fastening methods can also be employed.

The vinyl surface resists scuffing, abrasion, staining, and continuous heat up to 160° F, or up to 212° F for 2 days. Applications include automobile interiors, appliance cabinets, architectural products, furniture, and office fixtures. Made by **United States Steel Corp.**, 525 William Penn Place, Pittsburgh 30, Pa.

For more details circle NED-811 D9 on enclosed inquiry slip

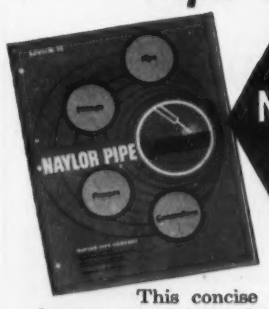
AIR LINE LEAK DETECTOR tests in 5 sec



Daubing an air line joint with Air-Push leak detector facilitates finding a leak by watching for bubbles. They appear within 5 sec if a leak is present. Clear liquid is applied from a 4-oz dauber-top bottle which sells for $1. Pint and gallon containers are also offered. Made by **Sprague Devices, Inc.**, Larry & Huron Streets, Michigan City, Ind.

For more details circle NED-812 D9 on enclosed inquiry slip

Helps Answer Pipe Problems!



CONDENSED NAYLOR CATALOG
Offers Data on Pipe and Fittings

This concise catalog presents helpful data on NAYLOR pipe, fittings and connections for use on large diameter pipe applications. Includes standard specifications on pipe sizes from 4" to 30" in diameter—in steel, alloys and stainless steel.

Ask for Condensed Catalog No. 59.

for
- Water lines
- Air lines
- Compressed air lines
- Gas lines
- Ventilating lines
- Process lines
- Pneumatic conveyors
- Sludge lines
- Vacuum lines
- Drainage lines

NAYLOR PIPE Company
1247 E. 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

For more details circle NED-813 D9 on enclosed inquiry slip

Pressure-feed SPRAY OUTFIT for small paint jobs

The lightweight DeVilbiss pressure-feed spray outfit is easy to maneuver . . . applies all paint materials with the speed of a large-capacity outfit. Short hose lines from cup to gun permit fast and simple color changes and clean-up.

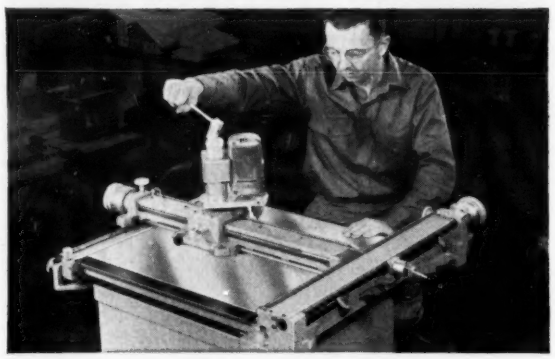
Sprays primers, latex-base, alkyds, enamels, multi-color, varnishes, or lacquers. Two-quart cup lets you complete jobs without frequent refills. Fingertip controls provide precise air and fluid adjustments. Write for catalog.

DEVILBISS

THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

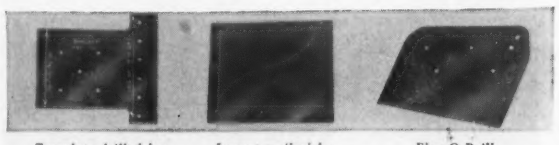
For more details circle NED-814 D9 on enclosed inquiry slip

layout and template making time cut in half...



THE NEW **STRIPPIT FLEX-O-DRILL**

- **DRILLS, REAMS, SCRIBES, CENTER PUNCHES** to ± 0.002" WITHOUT base line drawing or height gauge layout!
- **EASY, ACCURATE POSITIONING**—quickly set to any reference point and to nearest 0.100" by adjustable steel tapes reading in both directions from zero. Micrometric gauges then bring settings to nearest 0.001". No optical scanning device needed.
- **LASTING ACCURACY!** Table is an actual ground surface plate. Bridge assembly is of heavy, accurately machined castings. Lead screws are precision ground and engaged only during micrometic gauge settings to minimize wear. All parts are corrosion-resistant. Bearings are protected against dust and chips by felt shields. Drill motor is heavy-duty industrial type.
- **¼" CAPACITY** in mild steel—stock up to 24" width, any length.
- **ALSO A PROVEN MONEY-SAVER** on pilot runs, low unit production.



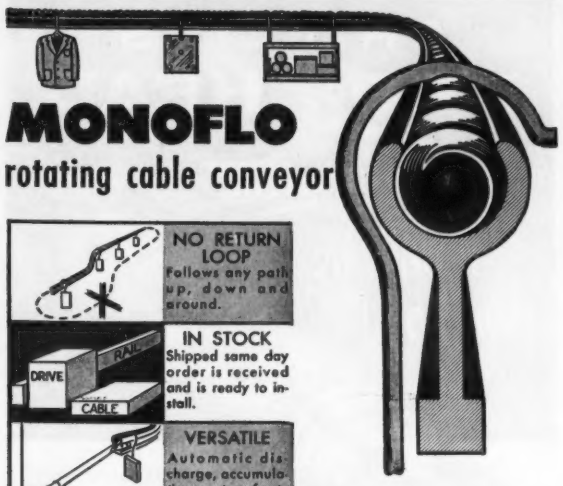
Template drilled by Flex-O-Drill *Layout scribed by Flex-O-Drill* *Flex-O-Drill work piece*

WRITE FOR LITERATURE TODAY, and an actual demonstration at your plant:

WALES STRIPPIT INC.
227 Buell Road, Akron, New York
A UNIT OF HOUDAILLE INDUSTRIES, INC.

In Canada: Strippit Tool & Machine Company, Brampton, Ont.

For more details circle NED-815 D9 on enclosed inquiry slip



MONOFLO
rotating cable conveyor

NO RETURN LOOP Follows any path up, down and around.

IN STOCK Shipped same day order is received and is ready to install.

VERSATILE Automatic discharge, accumulation, or transfer to another conveyor.

LOW COST INVOICE ½ Far under price of any other power conveyor.

INSTALLED ½ DAY By any mechanic with simple tools.

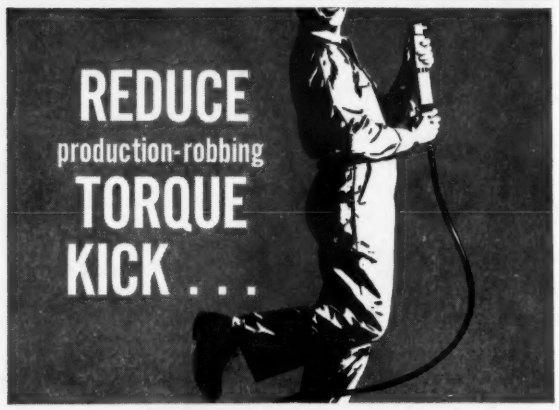
Full size section thru MONOFLO CONVEYOR

Hundreds of MONOFLOS working in Electronics, Metal Parts, Autos, Atomics, Missiles, Printed Circuits, Garments, Laundries, Glass, Food, Rubber, Plastics, Instruments.

They deliver parts, return empty jigs, accumulate parts and carry parts thru heating, cooling, painting, baking, etching, drying.

M-H STANDARD CORPORATION
515 Communipaw Ave., Jersey City 4, N. J.

▲ For more details circle NED-816 D9 on enclosed inquiry slip ▲



. . . with a Cleco automatic shutoff 14 series right angle nutsetter

Cleco's 14 ARA contains a dependable shutoff mechanism which stops the air motor instantly when preset torque is attained. Preset torque is accurately maintained to required specifications. Torque reaction is greatly reduced, thereby decreasing hazardous, tiring tool kick. This economical, high-production nutsetter has a friction-free clutch that permits extremely long periods of operation with negligible wear.

Exceptionally rugged, the 14 ARA weighs just over five pounds, and is available in reversible or non-reversible models.

For Complete Descriptive Details Write For Bulletin NS-558.

DIVISION OF REED ROLLER BIT COMPANY
P. O. Box 2119 • Houston 1, Texas
IN CANADA: Cleco Pneumatic Tool Company of Canada, Ltd., 927 Millwood Road, Leaside (Toronto), Ontario.

CLECO AIR TOOLS

▲ For more details circle NED-817 D9 on enclosed inquiry slip ▲

New Processes & Materials

NONSKID SPRAY
for inclined conveyor belts

Packages, parts, and other items are kept from sliding back down inclined conveyor belts by application of Sta-Put nonskid spray. The rubber-base aerosol is applied in zig-zag fashion on the face of any conveyor belt. It dries in 15 to 30 min and renders a belt slip-proof for months. One spray can treats 120 to 150 sq ft. Spray will not harm belts, or stain packages. Made by **Cling-Surface Co.**, 1032 Niagara St., Buffalo 13, N. Y.

▲ For more details circle NED-818 D9 on enclosed inquiry slip ▲

PLASTIC FLOOR FINISH
creates waterproof, antislip sheen

Wax-free, nonflammable Lusteron floor finish, formulated from liquid plastic resins, creates a waterproof, slip-resistant sheen without buffing or polishing. It is applicable to vinyl, rubber, linoleum, asphalt, plastic tile, painted, varnished, cork, and terrazzo floors. The finish resists abrasion, scuffing, and discoloration and does not show lap marks when worn spots are touched up. Finish is kept clean with simple cold water mopping. Developed by **Tropical Paint Co.**, 1246 W. 70th St., Cleveland 2, Ohio.

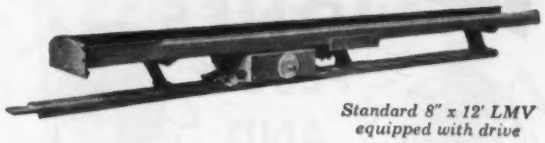
▲ For more details circle NED-819 D9 on enclosed inquiry slip ▲

CONCRETE SEALER
applied by brush, squeegee, spray

Water seepage through concrete floors in industrial plants and underground buildings can be prevented by applying two coats of Jennite J-16 surface seal. The sealing and damp-proofing agent requires the use of penetrating primer J-220-B to neutralize the concrete surface prior to application. Both primer and sealer are applied by brush, squeegee, or spray. Jennite-J-16 is a tough, resilient coating that is impervious to water and resistant to petroleum derivatives, including gasoline and oil. It is also spark-proof, stops concrete dusting, and is easily cleaned. Five-gallon cans and 30 and 55-gal drums are offered by **Maintenance Inc.**, Wooster, Ohio.

▲ For more details circle NED-820 D9 on enclosed inquiry slip ▲

VIBRATING CONVEYOR
shipped from stock for handling average capacities, medium or light granular materials



Standard 8" x 12' LMV equipped with drive

Jeffrey LMV mechanical vibrating conveyor handles free-flowing granular materials—won't degrade even the most sensitive compound. Remarkably low first cost and operating cost. Conveys (cools and dries, too) a few pounds per hour or tons per hour. Deck widths of 5", 8", 12", 18", 24"—in standard lengths of 12' extension sections. Sales offices and distributors in major cities.

CATALOG 890-A

It's easy to select the right size and type conveyor from Catalog 890A. Tells at a glance whether material you want to handle comes within its range, what capacity to expect, power required, installation data. Also describes medium and heavy duty units.

THE JEFFREY MANUFACTURING COMPANY
957 North Fourth Street, Columbus 16, Ohio

JEFFREY

▲ For more details circle NED-821 D9 on enclosed inquiry slip ▲

The Lepel line of induction heating equipment represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for numerous industrial applications.

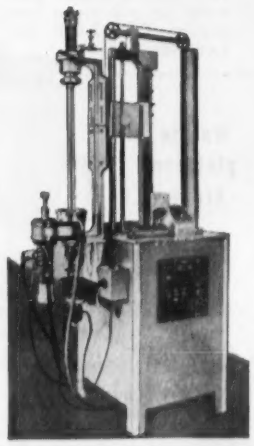
If you are interested in induction heating you are invited to send samples of the work with specifications. Our engineers will process and return the completed job with full data and recommendations without any cost or obligations.

FLOATING ZONE FIXTURE FOR METAL REFINING AND CRYSTAL GROWING

A new floating zone fixture for the production of ultra-high purity metals and semi-conductor materials. Purification or crystal growing is achieved by traversing a narrow molten zone along the length of the process bar while it is being supported vertically in vacuum or inert gas. Designed primarily for production purposes, Model HCP also provides great flexibility for laboratory studies.

Features

- A smooth, positive mechanical drive system with continuously variable up, down and rotational speeds, all independently controlled.
- An arrangement to rapidly center the process bar within a straight walled quartz tube supported between gas-tight, water-cooled end plates. Placement of the quartz tube is rather simple and adapters can be used to accomodate larger diameter tubes for larger process bars.
- Continuous water cooling for the outside of the quartz tube during operation.
- Assembly and dis-assemby of this system including removal of the completed process bar is simple and rapid.



Model HCP

Electronic Tube Generators from 1 kw to 100 kw.
Spark Gap Converters from 2 kw to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information.

All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

▲ For more details circle NED-822 D9 on enclosed inquiry slip ▲

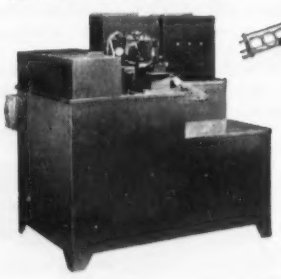
*Something **NEW** you should know about!*

FEEDMATIC-DETROIT AUTOMATED EQUIPMENT

Now, you can speed small parts production and cut costs with new Feedmatic electrically controlled machines. These units automatically and continuously feed, inspect, segregate or assemble parts at greater efficiency . . . reduce handling costs on high volume operations. Use Feedmatic automated machines separately or for high speed delivery to machine tools, heat treating furnaces or final assembly areas.

If your operation involves the manufacture or processing of parts in volume quantities, it will pay you to investigate the cost saving advantages of Feedmatic automated equipment. *Send us your problem today!*

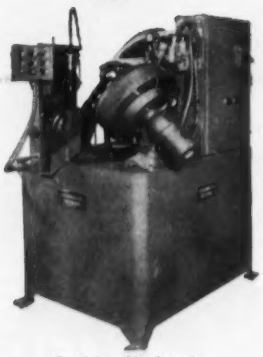
FEEDMATIC-DETROIT, INC.
26901 W. Seven Mile Road • Detroit 40, Michigan



Automatic Gaging Machine measures and sorts parts. Adjustable stops, anvils and gage heads to facilitate change over to different size parts. Tolerance of electrical gages adjustable from .0005 to .020.

Model 12F Floor Hopper. Parts storage capacity, 12 cubic feet. For automatic feeding of larger parts.

Rotary hopper unit. Fast, efficient parts feeding. Available in sizes from 8" to 24". Feed tracks engineered to meet specific job conditions.



Special machine for automatically assembling automotive components.

INSURE Proven Quality with JONES PLUGS AND SOCKETS

P-306-CCT Plug, Cable Clamp in Cap.

Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting.

S-306-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross section of 5/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 45 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

Ask for Jones Catalog No. 22 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

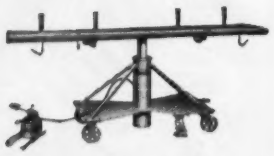
Jones HOWARD B. JONES DIVISION CINCH MANUFACTURING COMPANY CHICAGO 24, ILLINOIS DIVISION OF UNITED-CARR FASTENER CORP.

▲ For more details circle NED-827 D9 on enclosed inquiry slip ▲

RAYMOND COST CUTTERS

Portable HYDRAULIC elevating table

For die handling, feeding, positioning. Telescopic and non-telescopic models. Cap. 2,000 lbs.



HYDRAULIC sheet feeding table

Keeps sheets, strips at right working level. Increases production, makes jobs safer, easier. Cap. 2,000 lbs.

RAYMOND

Lightweight HYDRAULIC pallet truck

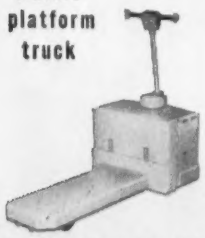
Rugged, maneuverable. 270° turning radius. Separate lift and lower foot pedals. Cap. 2,000 and 3,000 lbs.

Walkie pallet truck

24 volt power. Three speeds forward or reverse. Low price includes batteries and charger. Cap. 4,000 lbs.

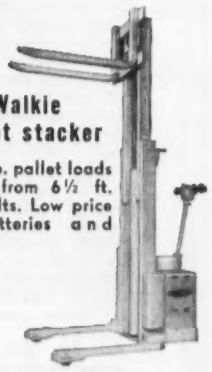
RAYMOND

Walkie platform truck



Operates in narrow aisles and crowded production areas. 24 volts. Low price includes batteries and charger. Cap. 4,000 lbs.

Walkie pallet stacker



Tiers 2,000 lb. pallet loads 10 ft. high from 6½ ft. aisles. 24 volts. Low price includes batteries and charger.

The RAYMOND CORPORATION

4189 Madison St., Greene, N. Y.

Please send bulletins:

SEND FOR FREE BULLETINS

☐ Portable Elevating Table ☐ Walkie Pallet Truck
☐ Sheet Feeding Table ☐ Walkie Pallet Stacker
☐ Lightweight Pallet Truck ☐ Walkie Platform Truck

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-828 D9 on enclosed inquiry slip ▲

New Literature and Catalogs

Electric Production Tools

Black & Webster, Inc.—Solenoid-operated impact hammers, punches, stakers, and Geneva action indexing tables are among the all-electric production tools reviewed in 12-page Form 75. Tools are used for riveting, staking, crimping, swaging, punching, and marking operations in the electrical and electronic, instrument, and metalworking fields.

▲ For more details circle NED-829 D9 on enclosed inquiry slip ▲

Basic Jigs & Fixtures

The 24 x 18-in. size of this catalog of basic jigs and fixtures makes possible the inclusion of 70 full-size tracing templets, printed in red ink for easy tracing by the draftsman. Illustrated are 7 mill and gang fixture bases, 7 T-angle plates, 47 aluminum tumble box jigs and cast iron box jigs, and 9 heavy duty box jigs. Available only upon request directly to Standard Parts Co., 1040 Broadway, Bedford, Ohio.

▲ For more details circle NED-830 D9 on enclosed inquiry slip ▲

Finishing Equipment Components

George Koch Sons, Inc.—40-page catalog "Standard Finishing Equipment Components" provides specification and performance information on line of industrial finishing products. Cabinet ovens, shelf and truck ovens, air makeup systems, flow coat units, pressure curtain coaters, and industrial fans are among items treated.

▲ For more details circle NED-831 D9 on enclosed inquiry slip ▲

Motor Selection Guide

Reliance Electric & Engineering Co.—Concise selection data for users of alternating-current motors from 1 to 200 hp are presented in 12-page Bulletin B-2103-4. It explains NEMA design classes, speed-frequency relationship, current and torque values, and contains frame selection tables covering frame sizes from 182 to 6085.

▲ For more details circle NED-832 D9 on enclosed inquiry slip ▲

Vibration Isolators

K. W. Johnson & Co.—Industrial vibration isolators reviewed in Catalog 581 are fabricated of oil-resistant rubber and metal. Isolators are used with heavy and light machinery, or any other equipment where vibration is a problem.

▲ For more details circle NED-833 D9 on enclosed inquiry slip ▲

Wood Block Flooring

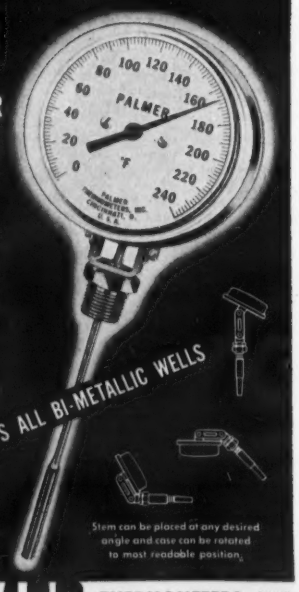
Jennison-Wright Corp.—Kountersunk lug, grooved, and flexible strip types of Kreolite wood block flooring are described in illustrated 8-page booklet. Specifications, application, and installation data for each type are given.

▲ For more details circle NED-834 D9 on enclosed inquiry slip ▲

Outstanding Accuracy

PALMER MODEL 1035 DIAL THERMOMETER

FULL 3½" DIAL FACE



Check these functional features

- Direct-drive Bourdon Coil with a filled system for longer lasting accuracy.
- Stem can be placed at any desired angle and case can be rotated to most readable position.
- External calibration for zero setting.
- Unaffected by stem alignment.
- Accurate to one scale division.
- No sticking at any temperature.
- Non-corrosive case.

Find Your Palmer Representative in the "Yellow Pages"

FITS ALL BI-METALLIC WELLS

Stem can be placed at any desired angle and case can be rotated to most readable position.

Write for Free Bulletin 1035 for complete description and prices.

PALMER THERMOMETERS, INC. Mfrs. of Industrial Laboratory, Recording and Dial Thermometers 2515 Norwood Ave., Cincinnati 12, O.

▲ For more details circle NED-835 D9 on enclosed inquiry slip ▲

PHILLIPS RED HEAD CONCRETE FASTENERS

"it drills its own hole!"

No expensive concrete drills or explosive charges needed. Install by hand or impact hammer. Won't pull out, rust out, melt out or shake loose. Holds more weight than any other; permanent as the concrete itself because of dovetail expansion principle. Write today for a catalog and your free sample

Job site demonstration can be arranged.

THE GENUINE PHILLIPS HAS A RED HEAD

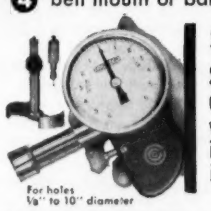
PHILLIPS DRILL COMPANY • MICHIGAN CITY 2, INDIANA

▲ For more details circle NED-836 D9 on enclosed inquiry slip ▲

HE KNOWS EXACTLY to less than .0001"

the measurements of close-tolerance holes he is producing:

1. exact size shown readable to fraction of .0001". (a fixed — not passing reading.)
2. front or back taper, exact amount of.
3. ovality, exact amount of diameter variation.
4. bell mouth or barrel shape, exact amount of.



For holes 1/8" to 10" diameter

SELF-ALIGNING, SELF-CENTERING

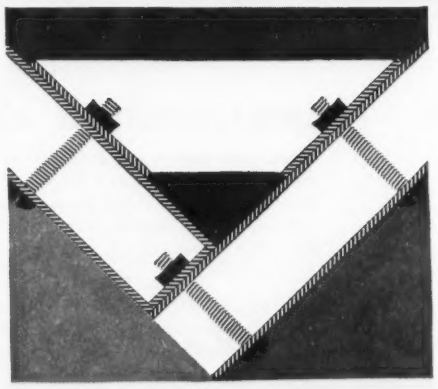
Comtorplug rules out guess work, assures precise gaging independent of operator variations.

SEND FOR BULLETIN 50 →

COMTOR COMPANY, 73 FARWELL ST., WALTHAM 54, MASS.

COMTORPLUG

▲ For more details circle NED-837 D9 on enclosed inquiry slip ▲



IN FASTENERS SOUTHERN IS permanence

For every fastener application that calls for uncompromising permanence, Southern has a screw to fit the job. There are no better screws made than USA-made Southern Screws. Southern Screw Service is without equal. Give Southern Screw the opportunity to live up to its reputation on *your* next fastener order. Write us your requirements. Address: Southern Screw Co., Box 1360, Statesville, North Carolina.

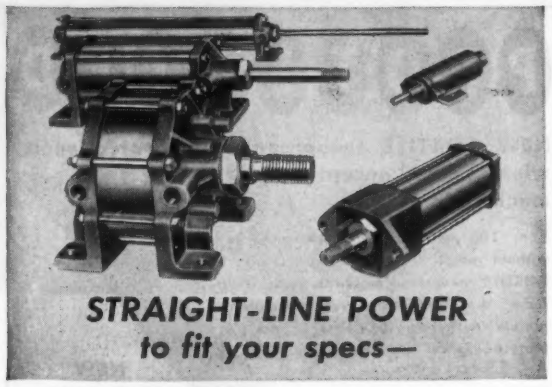
Machine Screws and Nuts • Tapping Screws • Stove Bolts • Wood Screws • Drive Screws • Hanger Bolts • Carriage Bolts • Dowel Screws

Manufacturing and Main Stock in Statesville, North Carolina

Southern SCREW COMPANY

Warehouses: New York • Chicago • Dallas • Los Angeles

▲ For more details circle NED-838 D9 on enclosed inquiry slip ▲



Schrader® Air Cylinders

Wherever you require straight-line force, you'll find there's a compact Schrader Cylinder that will deliver it economically . . . dependably. You can eliminate manual operations in thousands of applications—and at the same time speed production and improve safety.

If you design equipment, consider Schrader Air Cylinders' superlative ability to deliver controlled power exactly where and when you need it.

There's a cylinder to fit every application. Push, pull, reciprocating, and clamping designs . . . with or without cushioned stroke . . . and in a wide range of sizes, stroke lengths, and mountings. Power, speed and timing are easily adjustable. Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-839 D9 on enclosed inquiry slip

SAVE STORAGE SPACE

SAVE HANDLING TIME

Brown Sectional Stock Racks store more stock in less space. Handling is reduced to a short lateral movement instead of a long laborious end-haul.

Brown Racks are unique in both flexibility and economy. Spaced as required they can be easily relocated . . . they are neither cross-braced nor floor-bolted. Accessories, including base brackets and trays, increase usefulness.

Brown Racks are quickly installed, all components are slip-fitted together. No bolting, no tools.

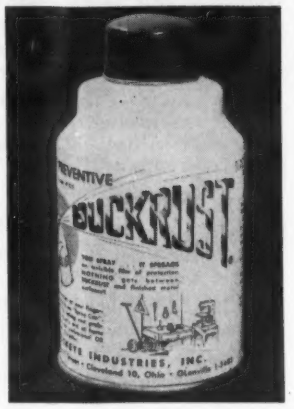
WRITE TODAY for complete information on how low-cost Brown Stock Racks can help solve your storage problems. Brown Engineering Company, 129 No. 3rd Street, Reading, Pennsylvania.

BROWN *Flexible* **STOCK RACKS**

For more details circle NED-840 D9 on enclosed inquiry slip

New Processes & Materials

RUST PREVENTIVES
for shop tools, jigs, gages, parts



Universal type Buckrust 125 rust preventive will give more than 2 years indoor protection from rust to shop tools, jigs, gages, and ferrous metal parts. Applied by cold dipping, brush, or spray methods, product is available in indoor and outdoor types. Once applied, it keeps spreading on metal surface to give a uniform, self-healing coating. It displaces water and bonds to the metal. The transparent film need not be removed for paint application. Product is offered in 5 and 55-gal containers, as well as aerosol spray cans. Developed by **Buckeye Industries, Inc.**, 870 E. 140th St., Cleveland 10, Ohio.

For more details circle NED-842 D9 on enclosed inquiry slip

ADHESIVE
for metal, glass, cloth, plastics

Factory assembly of vinyl plastics or rubber to furniture or equipment and attaching plastic foam to impregnated cardboard for paint rollers are among the applications for No. 2383 adhesive. It serves as a binding agent for metal, glass, many plastics, cloth, wood and rubber. The dry film is resistant to aliphatic hydrocarbons, water, and petroleum oils. Made by **Dennis Chemical Co.**, 2701 Papin St., St. Louis 3, Mo.

For more details circle NED-843 D9 on enclosed inquiry slip

FUSED TEFLON TAPE
for high temperature electrical use

Excellent electrical insulating properties, resistance to most chemicals, low coefficient of friction, and a non-sticking surface are advantages of four grades of skived Teflon tape. It is usable primarily for high temperature and high frequency wire and cable insulation, but it can be used to make gaskets, seals, and small parts. Treated with a cementable back, tapes can be used as rub rail covers or hopper and chute liners to provide practically frictionless surface. Four grades with varying properties include colored tapes. They range in width from 1/4 to 12 in. and in thicknesses from 0.002 in. and up. Made by **Continental-Diamond Fibre Corp.**, Newark, Del.

For more details circle NED-844 D9 on enclosed inquiry slip

Direct course to wire-rope savings—

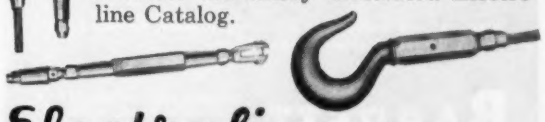
Electroline
wire rope fittings

A powerful gripping device that

- hangs on for keeps, the greater the load, the tighter it holds
- damps rope vibration—protects against failures
- goes on in a jiffy—no molten metal, no acids, no special tools—

. . . there you have the secret of savings built into Electroline Wire Rope Fittings.

Whatever the need, Electroline has an answer for it. Easy to get all the facts: send for the handy illustrated Electroline Catalog.



Electroline COMPANY
4121 SOUTH LASALLE STREET • CHICAGO 9, ILLINOIS
In Canada: Powerlite Devices, Ltd., Toronto

For more details circle NED-845 D9 on enclosed inquiry slip

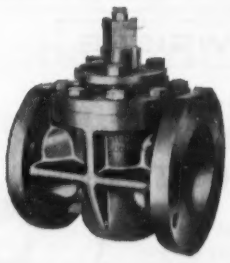
NEW!

Rockwell-Nordstrom

COATED VALVES

For Longer Valve Life, Lower Cost On Corrosive Services

New coatings applied to Rockwell-Nordstrom iron and steel lubricated plug valves assure the performance of more costly metals usually needed on highly corrosive services. *Kanigen*[1] coatings effectively resist corrosion on services where nickel or expensive alloys are usually required. *K-51: "Penton"*[2] coatings stop corrosion by acids, caustics, brines and most organic solvents.



SEND FOR FREE LITERATURE . . . *get complete facts on how you can have better valve service at lower cost.*

Write for complete details on the world's most complete line of lubricated plug valves, plug valve lubricants and accessories: Rockwell Manufacturing Company, Pittsburgh 8, Pa. Canadian Valve Licensee: Peacock Brothers Limited.

(1) Applied by General American Transportation Corporation.
(2) (3) K-51 Penton and Whirlclad are patented by National Polymer, Inc.

ROCKWELL-Nordstrom VALVES
another fine product by
ROCKWELL

For more details circle NED-846 D9 on enclosed inquiry slip

NEW

SKIL 1/2" Right Angle Drill, and Low-Cost, Self-Feeding Bits Drill Large Holes Fast—in Tight Places

Here is a combination designed to answer plumbers', electricians', and maintenance men's toughest on-the-job drilling problems. With the new Model 268 right angle 1/2" drill you can work in the tightest corners—and with the 5 new self-feeding bits you can drill large holes from 1 1/4" to 2 9/16" without bearing down on the tool!

This new Skil Model 268 handles *any* drilling job. By merely reversing the right angle drive unit, you can either have a lower speed for boring large holes, or higher speed for fast drilling of smaller holes. For straight-line drilling just remove the right angle drive.

And Skil's remarkable new self-feeding bits save you money two ways. They are lower in initial cost, and—unlike ordinary bits—their blades, perimeter cutters and feed screws are *replaceable*—at nominal cost.

The Model 268 comes complete with carrying case and one 2 9/16" self-feeding bit. Ask for a demonstration today by your local SKIL distributor.

SKIL
Famous Skil and Skilsaw Products, made only by SKIL Corporation, 5033 Elston Avenue, Chicago 30, Illinois

For more details circle NED-841 D9 on enclosed inquiry slip

BARRETT SYSTEMS
Engineered to your job

WRITE FOR DESCRIPTIVE LITERATURE

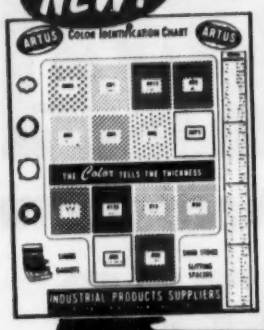
Whatever your materials handling requirements may be, Barrett can do the job efficiently, economically.

BARRETT
Materials handling engineers for half a century

BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Illinois. Representatives in All Principal Cities. Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

▲ For more details circle **NED-847 D9** on enclosed inquiry slip ▲

NEW!



A 'MUST' WHEREVER SHIMS ARE USED

ARTUS

PLASTIC SHIMS

THE COLOR TELLS THE THICKNESS

FREE
Write for this handy COLOR CHART, today!

Artus Plastic Shims are real time savers in production and maintenance. They're used by many of America's best known industrial corporations because they're more efficient, more convenient, always available.

Custom shapes to your specifications.

Write for Samples and Literature or Mail Blueprint for Test Sample.

THE **ARTUS** CORPORATION
201 South Dean St. · Englewood, New Jersey
LOwell 7-0900
formerly INDUSTRIAL PRODUCTS SUPPLIERS

▲ For more details circle **NED-848 D9** on enclosed inquiry slip ▲

ACME VISIBLE

'Tis a wise man who keeps his INVENTORY under CONTROL

Knowing what you have, where it is and when you need more will give faster, more dependable results—and real savings of work, time and money.

Correctly planned inventory records do much more than show "stock on hand"—they list sources, vendors, maximum and minimum quantities, time required for delivery and dozens of other important facts that really CONTROL inventory.

Acme has created and installed hundreds of different Inventory Control Systems. Perhaps one would suit your needs. If not, your Acme man will design a record to your specifications.

ACME VISIBLE RECORDS, INC., Crozet, Virginia

V-459

☐ Send us more information and literature on Photo Panels.
☐ We are interested in Acme Visible equipment for_____ records. KIND OF RECORD
☐ Have representative call.
Date____ Time____

Company____
Attention____
Address____
City____ Zone____ State____

▲ For more details circle **NED-849 D9** on enclosed inquiry slip ▲

New Literature & Catalogs

Motor Applications

Century Electric Co. — "1959 Motor Application Guide" is title of 16-page Bulletin 270A. Charts on polyphase, single phase, and direct current motors list nine major factors in selecting proper motor for each application. Motors range in rating from 1/20 to 400 hp. Various mechanical variations and special designs are covered.

▲ For more details circle **NED-850 D9** on enclosed inquiry slip ▲

Safety Grating

Globe Co.—Safety Grip Strut grating, in one-piece steel, aluminum, or stainless constructions, and Gold Nugget welded grating are described in 24-page Catalog 5911. Included in bulletin are typical installations, engineering data for erection, and load charts for both types.

▲ For more details circle **NED-851 D9** on enclosed inquiry slip ▲

Emergency Lighting Units

Electric Cord Co.—Catalog No. 12 is descriptive of various models of Light Warden automatic emergency lighting units. Eight pages of information are given on these storage battery powered units which have built-in chargers and turn on automatically whenever power fails.

▲ For more details circle **NED-852 D9** on enclosed inquiry slip ▲

Pneumatic Conveyor Systems

Vac-U-Max Corp.—Jet-Air pneumatic conveyor systems, subject of 4-page bulletin, afford low cost transfer of wet or dry fluid materials from bins, containers, or other sources into processing, transportation, or storage equipment. Material is conveyed through 1½ or 2-in. aluminum or clear plastic piping.

▲ For more details circle **NED-853 D9** on enclosed inquiry slip ▲

Magnetic Flowmeters

Fischer & Porter Co.—Magnetic flowmeters provide obstructionless metering of difficult liquids such as acids, slurries, dyes, food products, abrasive fluids, and corrosives in quantities ranging from a trickle to many millions of gallons per day. Operating principle and typical uses are shown in 6-page Catalog 10D1416.

▲ For more details circle **NED-854 D9** on enclosed inquiry slip ▲

Pipe Expansion Joints

Garlock Packing Co.—Rubber, neoprene, and Teflon-lined expansion joints for pipelines handling hot or cold water, mild acids, mild caustics, brine, air, or steam at temperatures to 180° F are subject of Bulletin AD-137. Spool type for connecting concentric flanges and different diameters as well as eccentric taper types for connecting off-center piping are available in a wide range of sizes. They prevent flange breakage, stop noise and vibration, and correct for misalignment, expansion, and contraction.

▲ For more details circle **NED-855 D9** on enclosed inquiry slip ▲

SAVE VALUABLE DESIGN HOURS *with* **BERGEN's cable assembly catalog**

24 pages of essential wire rope and assembly information . . . drawings dimensions, strengths, materials, for every application. Answers all your design questions.

Send for your free copy of CA-1.

502 GREGG STREET, LODI, N. J.

SPECIALISTS IN THE UNUSUAL

▲ For more details circle **NED-856 D9** on enclosed inquiry slip ▲

PROTECTED

NEW GORTITE (neoprene) way protection is winning rapid acceptance for all machine tools.

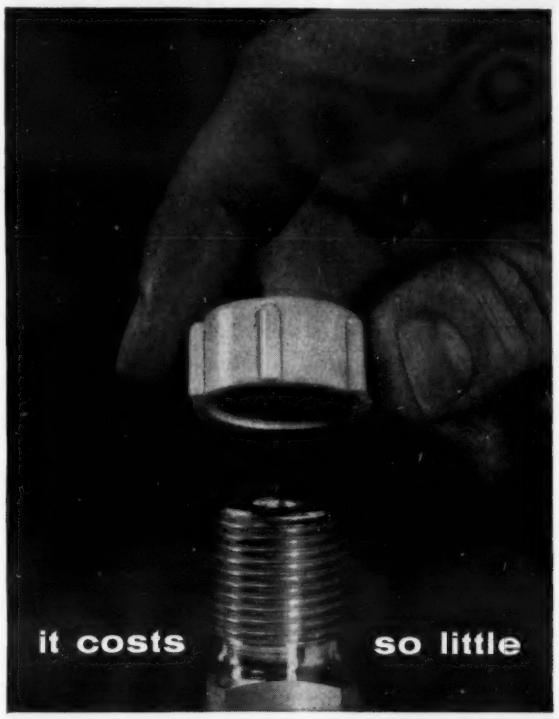
1 or 100 parts may be fabricated to order without molds. Only these newest and best GORTITE neoprene materials will overcome the weaknesses of obsolete, pliable materials. GORTITE is the protection that has passed rigid tests — AMS 3270 and MID-5-7719 in aviation service.

NEW BULLETIN

GW-100 illustrates way-protectors which open to 90° on both sides of the column and close to an unbelieveable 24". GW-100 mailed on request to A&A Mfg. Company, Inc., 712 S. 12th St., Milwaukee 4, Wis.

ALL SHAPES & CONTOURS — Boots, Sleeves, Way-protectors.

▲ For more details circle **NED-857 D9** on enclosed inquiry slip ▲



to protect customer goodwill with . . .

S.S.White PLASTIC PLUGS AND CAPS

For mere pennies you can insure customer goodwill... by protecting your products with S.S. White plastic plugs and caps. Not a chance of damaged threads, dirt, moisture, or leakage during shipping or handling. And...the extremely simple removal of S.S. White plugs and caps will demonstratably save him money and production time. They come off rapidly by hand...no shreds, no residue left in the part.

And don't forget...their rapid installation and low cost mean savings in your plant too!

Two lines to choose from:

The quality line—of rigid acetate . . . tough, non-brittle, impervious to petroleum-base oils and greases, outstanding impact strength.

The economy line—of elastoplastic vinylite . . . a "non-slip grip" for rapid installation and removal, a "stay-put fit."

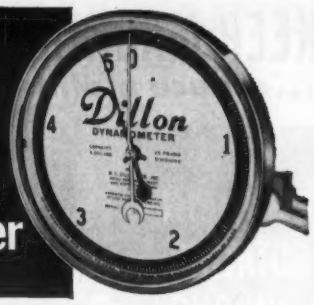
WRITE FOR FREE BULLETIN
(P5708) and samples
(please state size and type)

S.S.White PLASTICS DIVISION

Dept. 7P · 10 East 40th Street · New York 16, N. Y.
Western Office: 1839 West Pico Blvd. · Los Angeles, Calif.

▲ For more details circle **NED-858 D9** on enclosed inquiry slip ▲

Investigate The Portable Dillon Dynamometer

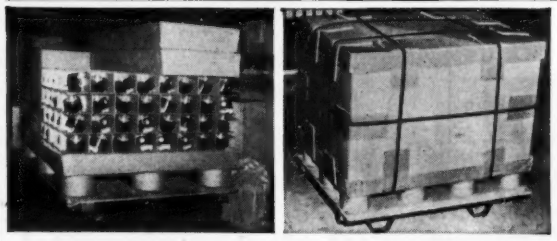


- 13 CAPACITIES: 0-500, 0-1000, 0-2500, 0-3500, 0-5000, 0-10M, 0-15M, 0-20M, 0-30M, 0-40M, 0-50M and 0-100M pounds.
- Choice of dial sizes: 5" or 10" diameter.
- Equipped with attachment shackles and pins.
- Dial protected by shatterproof crystal.
- Will withstand accidental overloads.
- Has max. pointer to register peak loads.
- Extremely compact. Requires little headroom.
- Lightweight yet rugged. Easy to handle.

YOURS FREE!
Profusely illustrated catalog showing applications and prices. Write today!

W. C. Dillon & COMPANY, INC.
14578NE Keswick Street
Van Nuys 1, California

▲ For more details circle NED-859 D9 on enclosed inquiry slip ▲



Paperboard pallet unit load packs faster . . . costs less

This container for 400 controls and 400 tops for the controls saves $6.88 per pallet load in materials over former method, and packs faster. Container base is Signode expendable pallet tray with 4-inch flange, 9 or 12 posts. Two steel straps in each direction, centered between posts, plus a belly band, secure the pack.

For more details on this application, ask for Release #1.

Signode expendable paperboard pallets are light, strong, clean, shock-absorbing. A 10-lb. pallet can support 6,000 lbs. And there's no physical problem or bookkeeping problem of return—an advantage to you and your customers.

Let a Signode Pallet Licensee—*a dependable local supplier*—help you design a corrugated unit load that will give you maximum savings. We will be glad to put you in touch with one or more licensees near you. Just write Signode.

Sponsored by Paperboard Pallet Manufacturers
in cooperation with
SIGNODE STEEL STRAPPING CO.
Dept. SP, 2643 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-860 D9 on enclosed inquiry slip ▲

New Processes & Materials

RUST & SCALE REMOVER
single salt is dissolved in water

Rust, scale, and black oxide can be removed from steel without attacking the base metal by Striplite, a single dry salt. It is dissolved in water at a ratio of 1 to 4 lb per gallon and used at 180° F to boiling. Electrolytic use is also possible. Solution activity is proportional to its strength, temperature, and the presence or absence of electric current. Made by **Du-Lite Chemical Corp.**, River Road, Middletown, Conn.

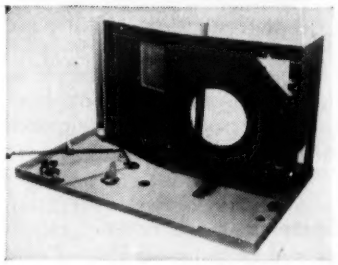
▲ For more details circle NED-862 D9 on enclosed inquiry slip ▲

COLORED ROOF COATING
contains aluminum pigment

Suitable for masonry side walls and shingles as well as for roofs, Triple A Coating No. 162-G contains a nonleafing type aluminum pigment, synthetic oil, asbestos fibers, and color pigments. Colors are red, blue, brown, green, gray, and aluminum as well as a high gloss white. It can be applied over asphalt or composition shingles, and it remains pliable without cracking, peeling, or blistering. Coverage is 100 to 150 sq ft per gal. Made by **United Laboratories, Inc.**, 16801 Euclid Ave., Cleveland 12, Ohio.

▲ For more details circle NED-863 D9 on enclosed inquiry slip ▲

MASTIC SEALER
product is pumpable and fire-safe



Because it can be pumped, No. 144.7 Mastic Sealer is suited to production line sealing of air conditioners, air-directed partitions, and heating equipment. The fire-safe mastic is self-extinguishing after solvent is released. It can also be used for general sound deadening, protecting welded studs and annular areas from corrosion, condensate sealing, and holding sound-deadening pads in place. Also available in this series are sealers that are fast or slow-drying, odorless, life-retaining under water, resistant to freeze-thaw breakdown, nonslumping over gaps of 1/4 in., and heat resistant. Made by **Presstite-Keystone Engineering Products Co.**, 39th & Chouteau Ave., St. Louis 10, Mo.

▲ For more details circle NED-864 D9 on enclosed inquiry slip ▲

SEE THE COMPLETE LINE!

HILD

TRANSFERABLE HEAD
VACUUM CLEANERS

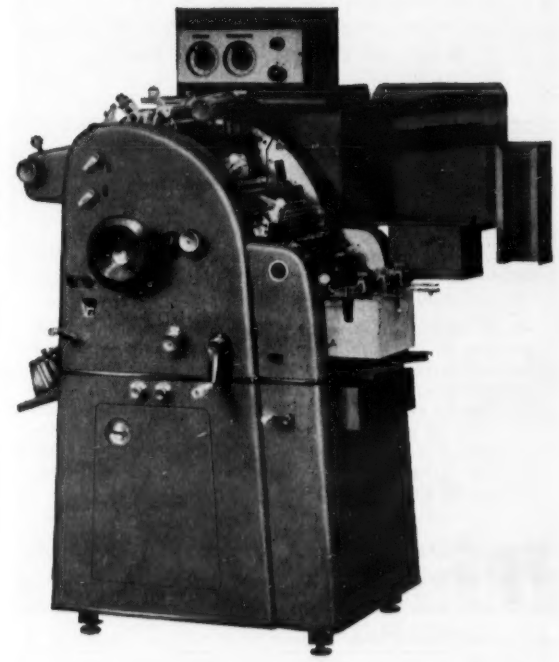
FOR USE ON YOUR OWN 55 GALLON DRUM

WRITE FOR INFORMATION
HILD FLOOR MACHINE CO. INC.
1217 W. Washington Blvd., Chicago 7

Manufacturers of Floor Machines and Industrial Vacuum Cleaners Since 1927

▲ For more details circle NED-865 D9 on enclosed inquiry slip ▲

NEW, completely automated A. B. DICK offset systems duplicator . . .



Reduces manual operations from 7 to 2!

1. OPERATOR SIMPLY ATTACHES MASTER, TURNS ON SWITCH...
2. PROGRAM CONTROL UNIT...
   - Starts cycle
   - Images blanket
   - Starts feed
   - Counts copies
   - Stops feed
   - Washes blanket
   - Shuts off machine

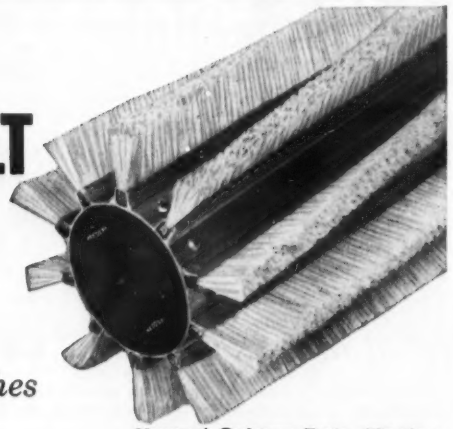
Handles up to 4 complete systems jobs per minute . . .
order-invoice, purchase-order receiving, production control, engineering paperwork. Models for duplicating image areas from 3 x 5 to 10½ x 16½ inches. Write for complete information. A. B. Dick Company, 5700 West Touhy Ave., Chicago 48, Illinois.

A·B·DICK®
Achievement through innovation

▲ For more details circle NED-866 D9 on enclosed inquiry slip ▲

OSBORN®

HOW TO END CONVEYOR BELT CLEANING PROBLEMS



Unique OSBORN ROTA-MASTER® brushes do the job automatically . . . can cut your downtime and maintenance costs now

CARRYOVER on rubber and fabric conveyor belts can cause destructive wear—and add costly downtime hours spent in frequent cleaning. Osborn Rota-Master® Brushes automatically and efficiently prevent buildup of such materials as chemicals, food, tobacco, chips, core sand, coke and ore on belts, rolls, snubber pulleys and return idlers.

Easy to install and adaptable to any system—Rota-Master Brushes clean conveyor belts with a unique, flexible sweeping action that does a thorough job. Brushes are self-cleaning, simple to adjust for correct brushing pressures.

Write for details to help pinpoint exactly how you can cut costs and simplify your conveyor cleaning. *The Osborn Manufacturing Company, Dept. N-6, Cleveland 14, Ohio.*

Newest Osborn Rota-Master® Brush features: Newly developed KORFIL®P fill material is extra-rugged . . . cleans more thoroughly, wears longer. New lightweight mounting is easier to handle and install. Mounting is re-usable . . . replacement strips easily inserted. In 16", 18", 24" face widths. Assemble in multiples for any belt size.

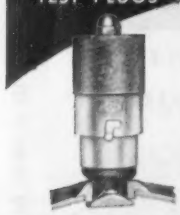
Write For Rota-Master® Brush Booklet . . . includes complete application, specification and operational data for all types of conveyor belt cleaning requirements.

Osborn Brushes

POWER, PAINT AND MAINTENANCE BRUSHES • BRUSHING METHODS • BRUSHING MACHINES FOUNDRY PRODUCTION MACHINERY

▲ For more details circle NED-861 D9 on enclosed inquiry slip ▲

SAVE TIME TESTING PRESSURE VESSELS
Seal Any Opening in 2 SECONDS
WITH "Quick-Seal"
TEST PLUGS AND FILLING CONNECTORS



"Quick-Seal" Test Plugs and Filling Connectors will reduce pressure test costs by sealing virtually any opening in 2 seconds or less. Can be used in unfinished or finished holes—shallow or deep—to provide leak-proof seal of air or liquid pressures up to 500 psi or greater. "Quick-Seal" Test Plugs and Filling Connectors are widely used by manufacturers of tanks, boilers, drums, castings, radiators, etc. . . . and are sold on a guaranteed satisfaction basis.

"Quick-Seal" Self-Sealing Test Plugs—use test pressure to insure leak-proof seal. Capacities to 500 psi.

"Quick-Seal" Self-Sealing Filling Connector—adapts and seals air or liquid pressure lines to standard or extra deep openings in all types of vessels. Capacities to 500 psi.

"Quick-Seal" Expanding Seal Test Plugs and/or Filling Connectors—manual or pneumatic types for low pressure testing. Can be used in rough or machined openings in all types of vessels, systems and assemblies.

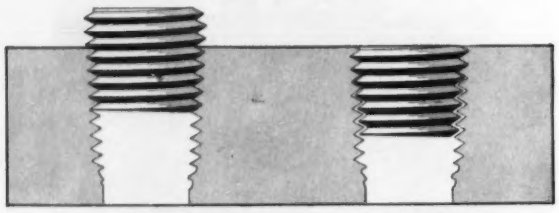
Get complete details on time saving "Quick-Seal" Plugs and Connectors. Write for free illustrated catalog today.

MECHANICAL PRODUCTS CORPORATION
176 North Ogden Avenue, Chicago 7, Illinois

For more details circle NED-868 D9 on enclosed inquiry slip

NEW FLUSH-TYPE PRESSURE PLUGS

UNBRAKO Levl-Seal with Dryseal Threads
• seat level with assembly surface • develop a positive high-pressure seal without compound
• can be used again and again



Conventional Levl-Seal

Flush seating eliminates unsightly and hazardous protrusions on assembly surfaces. Positive high-pressure seal without compound prevents leakage and eliminates contamination of system fluids. Both features make UNBRAKO Levl-Seal Pressure Plugs ideal for application in hydraulic and other high pressure systems. Sizes—1/16 through 1¼ in.—stocked by authorized distributors. Ask for Bulletin 2501. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SPS Jenkintown • Pennsylvania
Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

For more details circle NED-869 D9 on enclosed inquiry slip

INDUSTRIAL ROLL-CAB

Here's a workshop on wheels for busy maintenance men. It's big and ruggedly built with plenty of tool storage space, bins for small parts and 45-inch by 24-inch illuminated top for bench work.

Rubber-tired wheels give mobility while two jack brakes provide steadiness when needed. Drawers slide without binding or sagging. Wiring for power tools is carried in armor cable.

Put your mechanics on wheels with the *Snap-on* Industrial Roll-Cab . . . keeps all his tools at his finger tips any place in the plant.

SNAP-ON TOOLS CORPORATION
8110-D 28th Avenue • Kenosha, Wisconsin

For more details circle NED-870 D9 on enclosed inquiry slip

New Literature & Catalogs

Industrial Spray Nozzles

Wm. Steinen Mfg. Co., Industrial Nozzle Div.—Data in 32-page Catalog 59 on industrial spray nozzles specify spray angles, dimensions, types of connections, and capacity versus pressure for standard units. Hollow and solid cone, flat spray, extra wide angle spray, and adjustable flat spray units are covered. Data relative to line strainers and nozzles for metal cleaning and processing are included.

For more details circle NED-871 D9 on enclosed inquiry slip

Selection of Motor Controls

Arrow-Hart & Hegeman Electric Co.—Wall-type Quick Selector Chart for selection and ordering of motor controls provides motor control ratings, sizes, features, catalog numbers, and ordering instructions. Index tabs simplify location of information. A complete listing of standard heater tables is included.

For more details circle NED-872 D9 on enclosed inquiry slip

Grinding Wheels

Chicago Wheel & Mfg. Co. — 12-page illustrated grinding wheel Catalog 7525 details a range of sizes and shapes for many industrial applications. Prices are given. Vitrified, resinoid, and rubber bonds in cut-off, straight, recessed, and plate-mounted wheels are included.

For more details circle NED-873 D9 on enclosed inquiry slip

Labels, Seals, & Tags

Allen Hollander Co.—The hidden talents of labels, tags, and seals as sales persuaders are brought out in the 48-page brochure "Ideas in Action." It shows hundreds of examples, many with case histories, and points out their primary purpose, whether it be to increase visibility, identify contents, give a warrantee or guarantee, etc.

For more details circle NED-874 D9 on enclosed inquiry slip

Water Tube Boilers

Vapor Heating Corp.—Recent industrial installations of drum Modulatic water tube boilers are subject of 16-page Bulletin 491. Story of each installation is told in a series of photos and captions telling how specific heating problems were solved by single and multiple, low and high pressure boilers.

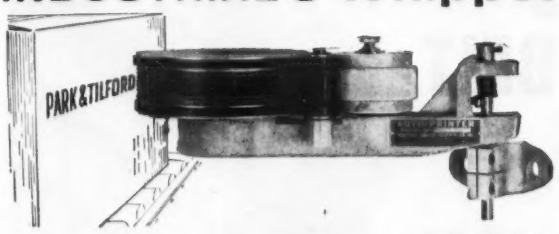
For more details circle NED-875 D9 on enclosed inquiry slip

Industrial Finishing Systems

R. C. Mahon Co., Industrial Equipment Div.—Complete finishing systems for spray, dip, or flow coating; cleaning, pickling, and rustproofing equipment; Hydro-Filter spray booths; drying and baking ovens; and Hydro-Foam dust collectors and fog filters are among the typical industrial equipment installations illustrated in 12-page catalog A-659. It also covers equipment for curing rubber, glass bonding, coating welding rods, and cylinder head heating.

For more details circle NED-876 D9 on enclosed inquiry slip

NO. 1 SPECIALIST IN THE MARKING FIELD
INDUSTRIAL'S Whippet



What Makes it First?...LOOK:

Versatility . . . automatically imprints cartons, bags, rolls, cans, containers and packages — as you need them during production line runs.
Low cost . . . "Whippet" sells low, seldom requires attention or maintenance.
Capacity . . . works non-stop at production lines speeds. No misses or overprints.
Simple Operation . . . attaches quickly and easily direct to conveyor line; non-oscillating friction head uses interchangeable rubber type for clear, legible impressions.
Saves . . . expensive hand stencilling, pre-printing, storage and inventory costs.

Proved practical and economical on almost any marking problem — in plants all over the country — "Whippet" is so simple, well designed and manufactured that experience proves they serve faithfully and profitably far beyond ordinary equipment. See how they can improve your operation.

Write for details and catalog today! Dept. NED

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
655 BERRIMAN ST. BROOKLYN 8, N.Y. NI 9-3305

For more details circle NED-877 D9 on enclosed inquiry slip

KEEP MACHINES RUNNING
...reduce maintenance costs,
with DEUBLIN ROTATING UNIONS

¾" Size Union Illustrated

for water, steam and air service!
Here is a compact, efficient rotating union—

★ LEAKPROOF
★ CORROSION PROOF
★ EASY TO SERVICE
★ VIRTUALLY FRICTIONLESS
★ PRECISION BUILT FOR LONGER LIFE
★ INTERCHANGEABLE with any other rotating union
★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

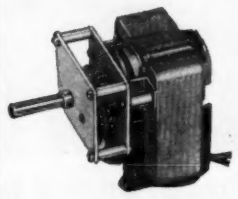
104 *Write today for full details and prices.*

DEUBLIN COMPANY
1925 STANLEY ST., NORTHBROOK, ILLINOIS

For more details circle NED-878 D9 on enclosed inquiry slip

NEW-SMALL GEAR TRAINS

Approx. 1/3 Actual Size



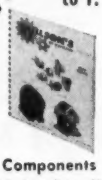
OPERATED by 115 Volt - 60 Cycle A. C. MOTORS

Manufacturers of small motivated devices can now obtain quickly and without tooling charges any Wilson's standard Series "A," "C" or "D" gear train unit powered by high quality shaded-pole motor for use on 115 volt, 60 cycle circuits.

Standard steel gears of 24DP and 48DP, made to close tolerances and in many sizes, produce a wide range of speed reduction ratios. Pinions are brass, splined into center holes of gears to insure concentricity and secure staking. Precision made — minimum backlash — low cost — fast delivery on standard units.

Standard Series "A" "C" and "D" Gear Trains
3/16" or 1/4" Output Shafts
Ratios Up To Over 1,000,000 to 1.

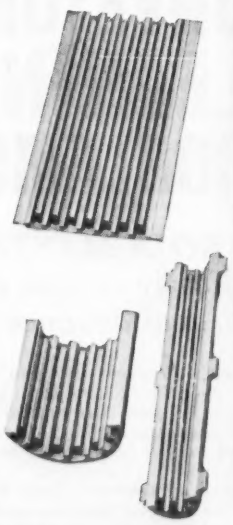
FREE TO ENGINEERS
Write for book showing styles, detailing dimensions, reduction ratios, motor voltages, quantity prices.



Wilson's of Cleveland
425 Lakeside Ave. N. W., Cleveland 13, Ohio
Specialists in Small Mechanical and Electrical Components

For more details circle NED-879 D9 on enclosed inquiry slip

Heating units you can adapt to your specific requirements



Hevi-Duty Heating Units deliver clean, uniform heat for industrial and chemical processes. They are available in two temperature ranges, 1800° F. or 2200° F. maximum.

Semi-cylindrical units are ideal for heating straight lengths of pipe or tubing. Flat units may be used with coils exposed or muffled and can be arranged to provide a flat heating surface or grouped to form a box. Both shapes are available in many standard sizes.

For complete information, write for Bulletin 158.

LABORATORY FURNACES
TRADE MULTIPLE UNIT MARK
ELECTRIC EXCLUSIVELY

HEVI-DUTY ELECTRIC CO.
Milwaukee 1, Wisconsin

For more details circle NED-880 D9 on enclosed inquiry slip

SAFER HANDLING
of INDUSTRIAL LIQUIDS!

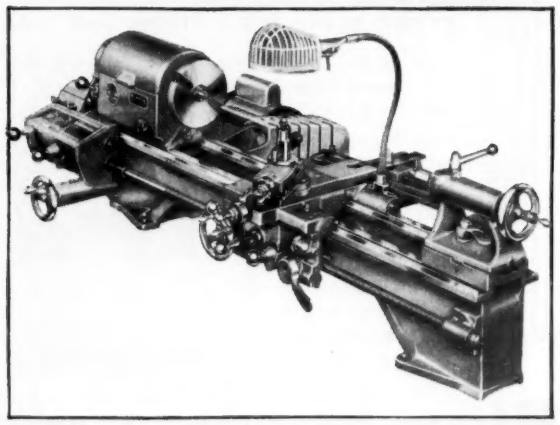
Eliminate in-plant accidents caused by slick floors and spilled inflammables! This TOKHEIM Hand Pump, for use on drums or skid-tanks, has 8′ hose—or spout outlet—prevents dangerous, wasteful slopping of oils and many other liquids. Speeds production. Pumps 20 gallons per 100 strokes. Ask your dealer, your Tokheim representative or write for list of liquids.

TOKHEIM High-Vacuum HAND PUMPS

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Avenue Fort Wayne 1, Ind.
Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

For more details circle NED-881 D9 on enclosed inquiry slip

NEW from DELTA



10″ METAL LATHE
can't be matched for real value!

No other lathe on the market offers you this exclusive combination of important features *as standard equipment:*

- VARIABLE SPEED DRIVE
- ¾″ COLLET CAPACITY
- DOUBLE ROW BALL BEARING (INBOARD)

And only Delta, with its modern production facilities, can give you so much lathe for so little money—only $645.00. If you want unequalled value in precision, ruggedness, and safety, get all the facts about this great 10″ lathe value.

NEW LATHE CATALOG

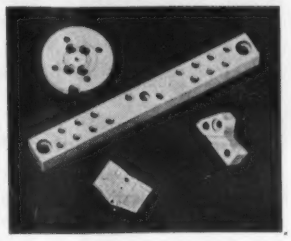
Pictures and describes the new 10″ lathe plus complete line of Delta Metal Lathes and full range of accessories. For free copy and list of Delta Lathe Dealers write: Rockwell Manufacturing Company, 626D N. Lexington Avenue, Pittsburgh 8, Pa.

DELTA METAL LATHES
another fine product by
ROCKWELL

For more details circle NED-882 D9 on enclosed inquiry slip

New Processes & Materials

MACHINABLE INSULATION dimensionally stable at 1550° F



Complete dimensional stability is retained at operating temperatures up to 1550° F by Supramic 620 ceramoplastic electrical-thermal insulating material. This insulation is machinable to exacting tolerances. Possible uses are radio transmitter and receiver insulation, switchboard panels and high frequency machines, heating devices, welding jigs and fixtures, relay contact supports, and in x-ray and nuclear devices. Material will not carbonize and exhibits 250-v-per-mil dielectric strength along with excellent arc resistance, negligible electrical loss characteristics, resistance to nuclear radiation, and thermal expansion coefficient equal to that of stainless steel. Made by **Mycalex Corp. of America**, 125 Clifton Blvd., Clifton, N. J.

For more details circle NED-883 D9 on enclosed inquiry slip

FIRE RETARDANT PAINT forms cellular, sponge-like layer to insulate against spread of flame

Available in resin base flat and gloss interior types, Saf fire retardant paints bear Underwriters' Laboratory label and are reported to halt the spread of fire. Fire

attacking a surface coated with this finish causes some of its ingredients to decompose into harmless vapor. The remainder of the film begins to swell.

As the fire gets hotter, chemicals expand or puff into layer after layer of cellular spongelike insulating mats up to 1 in. thick. This mat stops progress of flames and prevents burning of surface underneath. It also insulates the undersurface against the spread of heat. It will withstand 1700° F for 1 hour. Picture shows fire raging in one of two barracks which were set afire at the same time. The barracks in the background was finished with Saf and is relatively untouched by the flames, while the other was wholly consumed. Made by Baltimore Paint & Chemical Corp. and distributed by **Alim Corp.**, 11 Park Place, New York 7, N. Y.

For more details circle NED-884 D9 on enclosed inquiry slip

GRINDING MILL OUTPUT upped!

Performance proved! Sturtevant Air Separators, in closed circuits with grinding mills, have increased mill capacities from 25 to 300% while lowering power consumption as much as 50% in the cement industry.

Easily adaptable to your materials! Sizes of Sturtevant Air Separators, ranging from 3 to 18 feet dia., can be engineered to fit your specifications.

Cost-cutting features include rugged construction for a lifetime of low down-time service *plus* easy accessibility for quick maintenance (typified by the "OPEN-DOOR" design in other Sturtevant equipment).

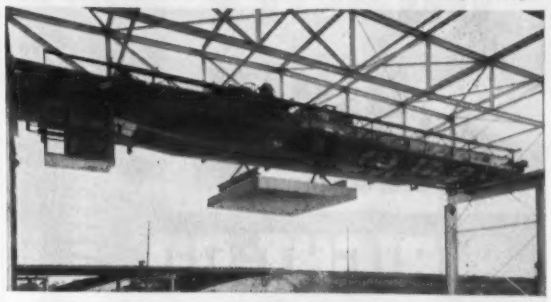
Write for bulletins on Sturtevant Air Separators and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to lower operating costs over more years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle NED-885 D9 on enclosed inquiry slip

Custom-Engineered
CONCO CRANES
fit the job, *do* the job . . . *Better*

Conco Crane Installation at Underwriters' Laboratories, Chicago



Conco Cranes are engineered to fit your job like a glove. And because custom-building is standard-practice at Conco, special crane features are practically priced. Write us for Bulletin 5000A covering the complete line of Conco cranes, hoists and trolleys.

CONCO ENGINEERING WORKS
Division of H. D. CONKEY & COMPANY
57 Grove Street • Mendota, Illinois
CRANES HOISTS CONCO
Affiliates Conco Engineering Works-Domestic Heating Equipment; Conco Building Products, Inc., Brick, Tile, Stone

For more details circle NED-886 D9 on enclosed inquiry slip

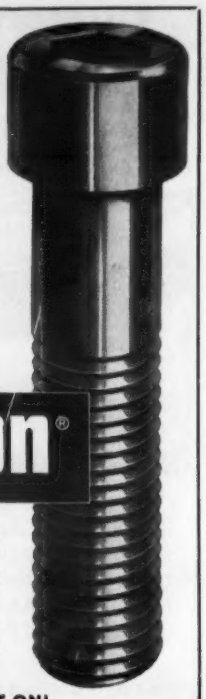
Stamp on rounds or flat with this impact-resistant rubber holder. Spring plunger retainer holds stamps firmly and allows the stamp to be changed quickly. **Write for Prices and Bulletin 581.**

Mecco SAFETY
N-DUR-ALL
Set-Rite
STAMP HOLDER
A product of the Marking Device Industry
M. E. CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-887 D9 on enclosed inquiry slip

For more details circle NED-888 D9 on enclosed inquiry slip

QUANTITY
QUALITY
QUICK



. . . yours with
SOCKET SCREW PRODUCTS by

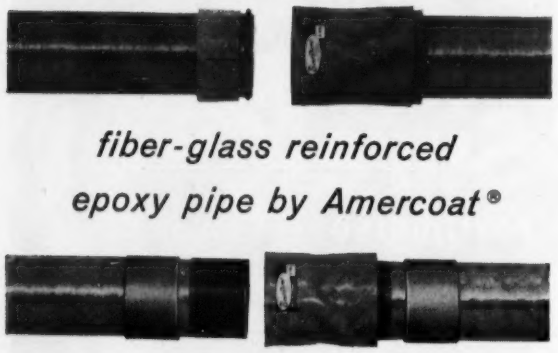
B-RIGHT-ON®

To get exactly *what* you want, *when* you want it, specify B-RIGHT-ON! Immediate service from selected mill supply houses' stocks. Write for detailed design-dimensional brochure!
COMPLETE SOCKET SCREW LINE!

® You can do better with B-RIGHT-ON!
THE BRIGHTON SCREW & MFG. CO.
1957 Reading Road, Cincinnati 2, Ohio

▲ For more details circle NED-889 D9 on enclosed inquiry slip ▲

BONDSTRAND®



fiber-glass reinforced epoxy pipe by Amercoat®

. . . strong as steel pipe, only one-eighth the weight. Tensile: hoop 80,000 psi, longitudinal 40,000. Highly corrosion resistant. Won't scale, cold flow or deform. 20-foot lengths easy to cut and join; threaded or locking wedge fittings.

MOST COMMON DIAMETERS AVAILABLE

Write for BONDSTRAND technical brochure

Amercoat CORPORATION
Dept. QD • 4809 Firestone Boulevard
South Gate, California
114A

▲ For more details circle NED-890 D9 on enclosed inquiry slip ▲

TURNS *Every* SHAPE!

REED

This newer Reed-line Chain Wrench is a Plus-tool: It does every job you can do with a conventional pipe wrench—plus—the jobs a conventional pipe wrench can't do! Reed Chain Wrench has faster, ratchet-like action which permits screwing up or unscrewing from either side . . . without removing the wrench from the pipe. Reed Chain Wrench turns every shape as it works easily where an ordinary wrench won't work at all—close to baseboards, in tight corners and between parallel pipe lines. Reed Chain Wrench holds firmly and securely without "play" or crushing.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA, U. S. A.

▲ For more details circle NED-891 D9 on enclosed inquiry slip ▲

New Literature & Catalogs

Industrial Thermometers

Rochester Mfg. Co.—12 pages of information on various types of dial thermometers for a wide range of industrial applications are contained in illustrated catalog. Features such as hermetic sealing, external recalibration, and double damping are explained.

▲ For more details circle NED-892 D9 on enclosed inquiry slip ▲

Self-Generating Photocells

International Rectifier Corp.—8-page Catalog PC-649A is entitled "Selenium Photovoltaic Cells." It gives information on a line of self-generating photocells for use in electrical and industrial engineering, chemistry, photography, photometry, and medicine.

▲ For more details circle NED-893 D9 on enclosed inquiry slip ▲

Thermocouples

Pyrometer Service Co.—Catalog WE-1 contains 16 pages of information on base and noble metal thermocouples, replacement elements, protecting tubes, special purpose types, and thermocouple components and accessories. Surface and foundry pyrometers are described. Specifications and prices are given.

▲ For more details circle NED-894 D9 on enclosed inquiry slip ▲

Socket Screws

General American Transportation Corp., Parker-Kalon Div.—Cap, flat head, button head, set, and shoulder type socket screws are described in 28-page Catalog 490C. It contains revised dimensions approved by the Socket Head Cap and Set Screw Manufacturer's Standards Committee.

▲ For more details circle NED-895 D9 on enclosed inquiry slip ▲

Standard to Rare Plywoods

North American Plywood Corp.—Direct-from-importer service on plywoods from all parts of the world is offered in 8-page "Warehouse Stock List." They range from standard domestic types to rare and exotic Limba, Gaboon, and teak from far off lands. Sizes, thicknesses, and available plywood grades are listed.

▲ For more details circle NED-896 D9 on enclosed inquiry slip ▲

Hose Clamps, Tools & Fittings

Punch-Lok Co.—Punch-Lok hose clamps, tools, and fittings available for making leakproof hose connections are subject of descriptive Catalog 300. It covers preformed and open-end clamps, the Clamp-Master kit of 45 standard clamps, hose fittings, and various locking tools. Application of clamps is pictured.

▲ For more details circle NED-897 D9 on enclosed inquiry slip ▲

Wood Block Floor Materials

Hayden Shaw Mineral Products—Folder points up the economy of using Pac-A-Block, palletized creosoted wood floor blocks, and Kre-X semiliquid floor bond. Also described are permanent line aisle markers which have colored glass fiber tops as integral part of the wood block.

▲ For more details circle NED-898 D9 on enclosed inquiry slip ▲

Specify the T-J *Spacemaker*
for longer, more efficient cylinder service

1. METAL PISTON ROD SCRAPER—protects rod packing, cylinder bore and rod surface by removing all foreign particles.
2. NEW "SUPER" CUSHION for air or METALLIC SELF-ALIGNING MASTER CUSHION for oil.
3. HARD CHROME PLATED CYLINDER BORES AND PISTON RODS for greater protection and reduced wear.
4. ONE PIECE PISTON assures better alignment, longer bearing and packing life.
5. FORGED SOLID STEEL HEADS throughout entire line.
6. PILOTED PACKING GLAND with extra long bearing for additional strength and support to piston rod.
7. NO TIE-RODS TO STRETCH—gives you 360° port rotation . . . less space used . . . full strength.
8. STREAMLINED DESIGN . . . operating pressures to 200 PSI, air; 1,000 PSI oil, non-shock.

Write for Bulletin SM 155-4. • The Tomkins-Johnson Co., Jackson, Mich.

▲ For more details circle NED-899 D9 on enclosed inquiry slip ▲

FACTS from MEYERCORD
for latest information on plant and product marking
. . . ask for these brochures . . . free!

PLANT MAINTENANCE MARKING KIT
for Water, Heating and Air Conditioning Systems
Now in use by leading manufacturers and service organizations. Provides standardized identification, absolute legibility, and permanency at remarkably low cost. Kit includes 474 signs assorted over 59 operational subjects. Easily applied in seconds.

LUBRI-CAL MARKING KIT
Takes the Guesswork Out of Lubrication
An important preventive maintenance program. The proper frequency of numerals, letters and instruction nameplates for identifying lubrication points and required lubricants on plant, production and operating equipment. Permanent, tough, oil-resistant transfers.

DECAL MARKING METHOD
Decal marking for "difficult surfaces"
Heat, abrasion, weather and many of the new industrial surfaces are deadly enemies of most product markings. But not to new, improved Meyercord Decal Markings—types C, G, J and H (heat resistant). Ask for new brochure.

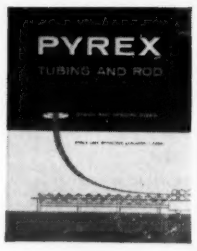
the MEYERCORD co.
Dept. G-316 5323 West Lake St., Chicago 44, Illinois

▲ For more details circle NED-900 D9 on enclosed inquiry slip ▲

Need GLASS tubing or rod?

NEW BOOKLET gives dimensions, weights, and prices for both standard and special PYREX brand glass tubing and rod.

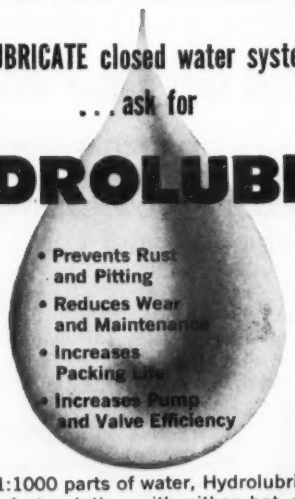
Looking for glass tubing and/or rod that can stand up to high temperatures and corrosion? Need heavy wall, capillary or graded seal tubing? Want specs and prices for special sizes? Here in 16 pages are all the answers you need for specifying *and* purchasing. Get your copy of Bulletin TPL-1 today. Write to Corning Glass Works, 56 Crystal Street, Corning, N.Y.



CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

▲ For more details circle NED-901 D9 on enclosed inquiry slip ▲

To LUBRICATE closed water systems
. . . ask for
HYDROLUBRIC



• Prevents Rust and Pitting
• Reduces Wear and Maintenance
• Increases Packing Life
• Increases Pump and Valve Efficiency

Mixed 1:1000 parts of water, Hydrolubric goes into perfect solution with either hot or cold water to provide needed lubrication for packings, cylinders, pistons and valves.

Write for new folder on Hydrolubric. E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

HYDROLUBRIC
. . . a product of
E. F. HOUGHTON & CO.
Ready to Give you on-the-job service
Philadelphia, Pa. • Chicago, Ill. • Cornelius, Ga. Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

▲ For more details circle NED-902 D9 on enclosed inquiry slip ▲

NEW FRICTION SAW

FOR

FAST CUTTING OF STRUCTURALS—RAIL, PIPE AND BAR STOCK

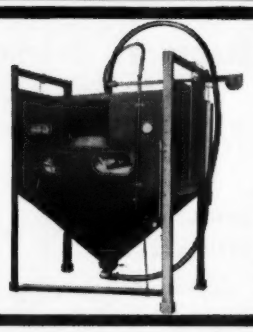
These revolutionary new friction saws are one-piece construction . . . need no expensive pits . . . can be moved quickly and cheaply. New coolant system keeps cut hot, blade cool . . . electronic pressure feed eliminates complicated hydraulic system . . . varies pressure as blade moves through different thicknesses. Steel safety shroud reduces noise level . . . stops flying sparks.

FREE BROCHURE

TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

▲ For more details circle **NED-903 D9** on enclosed inquiry slip ▲

For fast cleaning of small work . . .



The Pangborn Air Blast Cleaning Cabinet was designed for production or maintenance . . . adaptable for sand or metal abrasives. Perfect for small or intermittent jobs! Cleans quickly and thoroughly, operates economically and safely. Shipped fully assembled.

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md. ***Manufacturers of Blast Cleaning and Dust Control Equipment and Rotoblast® Steel Shot and Grit.***

Pangborn
BLAST CLEANS CHEAPER

▲ For more details circle **NED-904 D9** on enclosed inquiry slip ▲

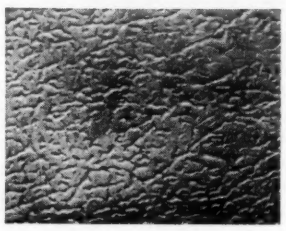
New Processes & Materials

CUSHIONED SHIPPING BAGS
lightweight and easy to handle

All types of fragile, highly finished, or other parts and products are safely and economically shipped in Corro-Bags. Made of lightweight corrugated material, these cushioned bags save postage, store compactly, pop open for quick filling, and seal readily with staples or tape. Nine sizes are offered from 5½ x 10 to 14¾ x 20½ in., as well as custom sizes. They can be imprinted to order. Made by **Sherman Paper Products Corp.**, Newton 64, Mass.

▲ For more details circle **NED-906 D9** on enclosed inquiry slip ▲

PATTERNED SHEET STEEL
has formability of plain sheet



Sheet steel with a variety of rolled-in patterns, including one of fine-grain leather, is now available in widths up to 48 in. Sheet is suitable for any application where decorative appeal is required, as in automotive, appliance, and building industry applications. It can be supplied in a variety of gages and widths, as either cut lengths or coils, and is fully as flat, drawable, and formable as plain sheet stock. Any pattern which can be drawn on paper can be impressed into the steel. Made by **Pittsburgh Steel Co.**, Grant Bldg., Pittsburgh 30, Pa.

▲ For more details circle **NED-907 D9** on enclosed inquiry slip ▲

FLOOR TOPPING
resists chemicals, heavy trucking

Exceptional resistance to solvents and chemicals is afforded by Duratrem floor topping which has a gray nonslip finish. Topping is used for flooring in processing, food, chemical, and petroleum industries where spillage of mild organic acids, alkalies, hot water, grease, and oils is possible. Trowelled on the floor ⅛ in. thick, normally without primers, it can be featheredged and does not require compacting. Topping will take light traffic in 12 hr; heavy traffic in 24 hr. Maximum chemical resistance is attained in 7 days. Made by **Tremco Mfg. Co.**, 8701 Kinsman Rd., Cleveland 4, Ohio.

▲ For more details circle **NED-908 D9** on enclosed inquiry slip ▲

Goes Further.... Seals Better....

For your convenience: available in handy 1-lb. brush top cans.

"John Crane" *Plastic Lead Seal is the most economical all-purpose sealing compound for pipe joints, studs and gaskets—*because you use less to get a better seal.* PLS seals for the life of the connection, yet never hardens, allowing joints to be easily broken after years of service.

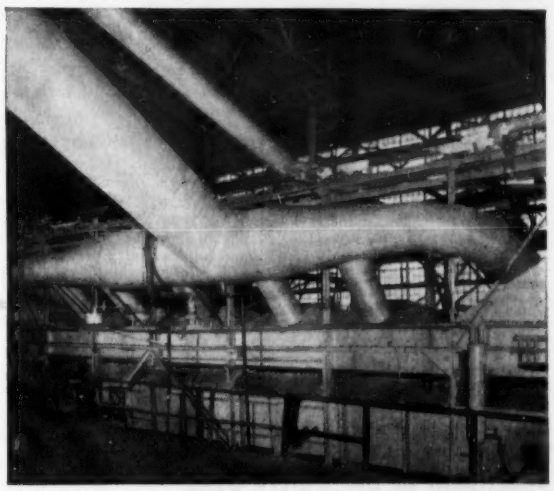
PLS prevents galling . . . is insoluble in water, gas, steam, many chemicals, refrigerants and petroleum products. Use it for all services . . . low or high pressure applications up to 6000 psi. . . . temperatures to 500°F.

Prove to yourself that it takes less PLS to give a perfect seal. Send for a generous free sample. Crane Packing Company, 6411 Oakton St., Morton Grove, Ill. (Chicago Suburb)

John Crane CRANE PACKING COMPANY

In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

▲ For more details circle **NED-909 D9** on enclosed inquiry slip ▲



Stop the High Maintenance Costs of Handling Corrosive Fumes: Specify

HEIL of Cleveland

SOLID PLASTIC

VENTILATING SYSTEMS

—NOTHING TO RUST—

Complete facilities, including fume collecting hoods—fume ejectors—ducts—centrifugal and axial fans—fume scrubbers and stacks. Our proven, corrosion free, **Rigivin** (rigid vinyl) and **Rigidon** (reinforced plastic) construction assures a maximum of long, efficient, low cost operation. There is **nothing to rust.**

Wide range of standard units speeds delivery, and minimizes your engineering costs.

Let the Heil Corrosion Engineers, with 29 years of successful experience designing and fabricating corrosion resistant systems, survey your needs, and recommend the equipment that will provide utmost efficiency, economy and long, maintenance-free operatoin.

Write for the Heil fully descriptive bulletins. They list standard sizes and give complete specifications.

CHEMICAL PROOF LININGS · TANKS HEATERS PLASTICS

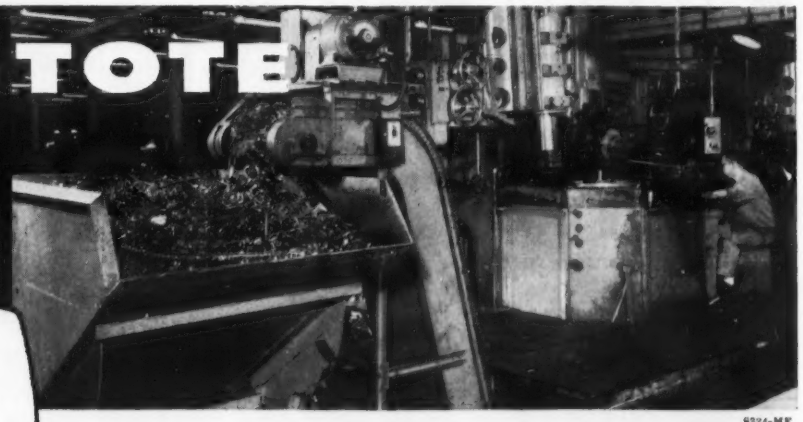
HEIL PROCESS EQUIPMENT CORPORATION
12901 Elmwood Avenue • Cleveland 11, Ohio

Heil Rigidon (Reinforced Plastic) Centrifugal Fan. | Heil Fume Scrubber Handling Corrosive Fumes. | Heil Ventilating System Handling Corrosive Fumes.

▲ For more details circle **NED-910 D9** on enclosed inquiry slip ▲

CHIP-TOTE

means automatic and continuous scrap removal from machine tools



8324-MF

Cost-conscious manufacturers everywhere are actually increasing the earning power of individual machine tools with the advanced method of scrap-handling offered by Chip-Tote conveyors. Chip-Totes reduce labor and machining costs up to 20% . . . pay for themselves in six months or less! Custom-engineered from stocked component parts, Chip-Totes feature May-Fran patented hinged steel belting, steel hold-down device, integrally mounted motor, adjustable safety clutch.

Get all the facts . . . write today for Bulletin MF-640

MAY-FRAN ENGINEERING, INC.

1711 Clarkstone Road
Cleveland 12, Ohio

▲ For more details circle **NED-905 D9** on enclosed inquiry slip ▲

KUNKLE GAUGES

FOR PROCESS & POWER INSTRUMENTATION

KUNKLE GAUGES

Complete, broad range line makes gauge application-specification easy with assured results backed by 50 years of gauge manufacturing experience.

Ranges from 15 p.s.i., or 30" of vacuum, to 20,000 p.s.i.

Bourdon tubes of bronze, drawn or bored s/s, and other alloys

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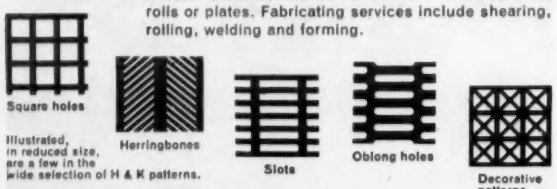

Square holes · Herringbones · Slots · Oblong holes · Decorative patterns

Illustrated, in reduced size, are a few in the wide selection of H & K patterns.

Functional or Decorative Uses

For whatever purpose perforated materials are required, H & K can fill the need. Appropriate metals can be ordered with color anodized, brushed and lacquered, painted, chrome plated, baked-on, or other special finishes.

Many patterns in steel sheets are in stock. Send for H & K Stock List Brochure.

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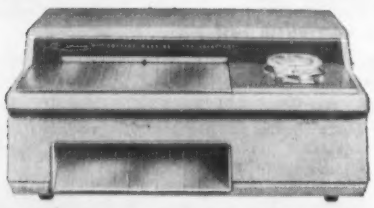

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New Literature & Catalogs

V-Belt Drives

Dodge Mfg. Corp.—The new smaller, lighter, and less bulky Dyna-V V-belt drives described in 44-page Bulletin A-695 are offered in two standard groove sizes, with belts to match. These cover drives from 1 to 200 hp. Tables provide horsepower capacities, belt speeds, center distances, sheave diameters, etc. Made-to-order sheaves with large belts to handle up to 1500 hp are also available.

▲ For more details circle NED-914 D9 on enclosed inquiry slip ▲

Molybdenum in Abrasion Resistant Materials

Climax Molybdenum Co.—"The Role of Molybdenum in Abrasion Resistant Materials" is title of 36-page booklet which discusses what abrasive wear is, its economic significance, and how to combat it. It describes materials to resist gouging, grinding, and scratching. An extensive section on how to produce abrasion resistant parts with four alloys is also included.

▲ For more details circle NED-915 D9 on enclosed inquiry slip ▲

Ceramic Permanent Magnets

D. M. Steward Mfg. Co.—Magnetic data, curves, and design information on F-300 barium ferrite, a ceramic permanent magnetic material are given in 4-page Bulletin 1-59. Details on its formability, magnetizing, and applications are given.

▲ For more details circle NED-916 D9 on enclosed inquiry slip ▲

Plastic Piping Systems

Chemtrol—Technology of plastic piping systems, plastics used in piping systems, installation and coupling methods, standards for plastic pipe, and a temperature and working pressure chart for Chemtrol valves are content of 16-page Handbook C-159. Effects of 280 chemicals on five plastics are shown in a table.

▲ For more details circle NED-917 D9 on enclosed inquiry slip ▲

Guide to Systems & Instrumentation

Minneapolis-Honeywell Regulator Co., Industrial Div.—Catalogued and cross-indexed in 24-page Bulletin G2-1a are all catalogs and literature of this company's Industrial and Valve division. Classifications include product catalogs, specifications, technical bulletins, industry bulletins, systems bulletins, and instrumentation data sheets. Equipment and systems for practically all industries and processes are covered, and specific literature for each need is listed.

▲ For more details circle NED-918 D9 on enclosed inquiry slip ▲

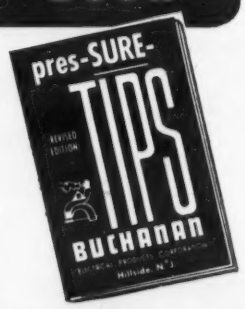
Automatic Hot Water Boilers

Orr & Sembower, Inc.—Eighteen sizes of Powermaster packaged hot water boilers with ratings to 20 million Btu are detailed in 8-page Bulletin 1251. These automatic boilers can be supplied with oil, gas, or combination burners. They are designed for forced circulation heating and processing use.

▲ For more details circle NED-919 D9 on enclosed inquiry slip ▲

BIGGEST LITTLE BOOK

To Help You Simplify & Speed Wire Splicing and Terminating with BUCHANAN pres-SURE-connectors and just one pres-SURE-tool



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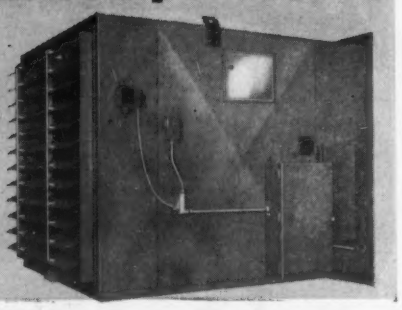

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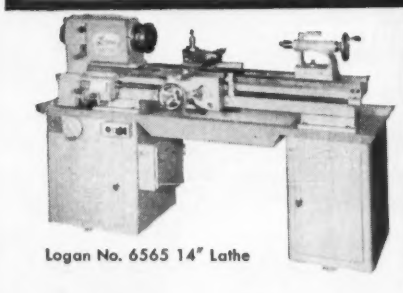
its specifications add up to high production capacity

Logan 14" Lathe



Logan No. 6565 14" Lathe

- Spindle speeds to 2000 rpm.
- 1½" Levermatic collet chuck capacity
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- 40" between centers

Logan's generous combination of high-quality features means greater reliability, accuracy, and longer life.

- Oversize spindle—1⅝" bore—four super-precision ball bearings—built-in preload
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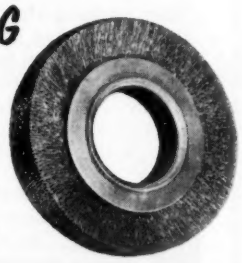

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For lowest cost per unit processed select: Anderson.

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New Processes & Materials

REPAIR KIT for metal, wood, plastic, ceramic

Fiberglas cloth and liquid and paste plastic compounds in the Old Pro kit are used for the repair and maintenance of trucks, boats, buildings, machinery, pipes, tools, tanks, and various other equipment. Kit components solidify to adhere and lend strength to fractures, tears, holes, and dents in metal, wood, plastic, concrete, ceramic, and other materials. These compounds do not rust, rot, or corrode. Made by **Taylor & Art, Inc.**, 1710 E. 12th St., Oakland 6, Calif.

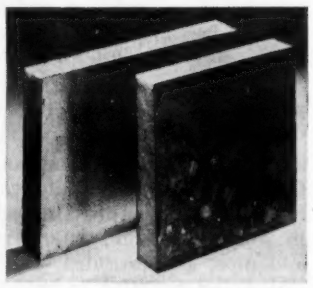
▲ For more details circle NED-927 D9 on enclosed inquiry slip ▲

PAINT STRIPPER ADDITIVE boosts action on synthetic finishes

Narrow range alkaline paint stripping solutions are converted into wide-range solutions capable of removing epoxy, acrylic, and similar tough synthetic finishes by Oakite Stripper Additive No. 4. Use of the additive makes it possible to salvage rejects economically, and to remove paint build-up from hooks, spray booth filters, and other painting equipment. Material is added to alkaline solutions in the range of 10 to 20 per cent by volume. Developed by **Oakite Products, Inc.**, 132G Rector St., New York 6, N. Y.

▲ For more details circle NED-928 D9 on enclosed inquiry slip ▲

PLASTIC INSULATING MATERIAL chemical additive smothers fire



Made from expandable polystyrene beads welded together into a homogeneous, lightweight mass, Uni-Crest "bead" and board insulating material incorporates a chemical additive which tends to suffocate fire in its incipient stages. Material can be made in densities from 1 to 20 lb per cu ft and has exceptionally low heat transfer rate, less than 2 per cent moisture absorption, low coefficient of expansion, and high dielectric properties. It can be painted or laminated with steel, aluminum, plaster, and plastic building materials. Uni-Crest is offered in molded slab, block, or sheet form in lengths up to 12 ft, widths up to 4 ft, and thicknesses up to 8 in. Made by **United Cork Cos.**, 50 Central Ave., Kearny, N. J.

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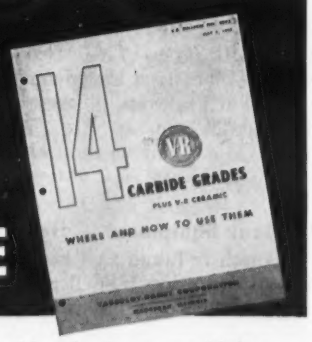
DO IT BETTER WITH V-R CARBIDE



Whether you are looking for better machining at lower cost or designing parts for your products, it will pay you to learn where and how to use V-R carbides. 14 V-R carbide grades provide the perfect combination of hardness . . . resistance to wear, heat and corrosion . . . density and dimensional stability for practically any application.

Send for bulletin No. 5803 or contact your V-R representative. He will be glad to show you how V-R carbides can help you.

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Made of tough, "self-healing" TYGON plastic, COLONIAL Cutting Pads —

1. Reduce die wear and breakage,
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Long wearing, dustless, and usable on both sides, COLONIAL Cutting Pads are widely used in machine, or hand cutting of rubber, leather, plastics, cork, candy, paper, fibre, felt cloth, foils, or light gauge metals.

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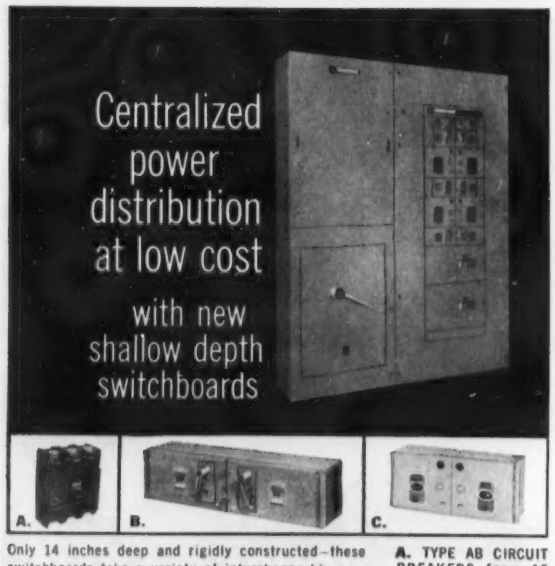
Centralized power distribution at low cost
with new shallow depth switchboards



Only 14 inches deep and rigidly constructed—these switchboards take a variety of interchangeable control and distribution units of modular dimension... consolidates motor starters, fusible switches, and circuit breakers into one installation...requires less floor space...reduces installation and maintenance costs...provides greater flexibility in meeting future requirements. For details, write for Bulletin #3-310: Federal Pacific Electric Co., General Offices: Dept. 319, Newark 1, N. J.

A. TYPE AB CIRCUIT BREAKERS from 15 through 800 amps.
B. QMQB FUSIBLE SWITCH UNITS from 30 through 1200 amps.
C. MAGNETIC OR MANUAL MOTOR STARTERS in NEMA sizes 0 through 5.

FPE FEDERAL PACIFIC ELECTRIC COMPANY
The Best in Electrical Distribution and Control Equipment.
For more details circle NED-936 D9 on enclosed inquiry slip

New Literature & Catalogs

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Savings in time and money made possible by using rods, bars, structurals and other magnesium and aluminum shapes extruded from a selection of thousands of stock dies of this company are explained in illustrated catalog. Full-scale dimensioned diagrams of dies show versatility of extruded mill products, including solid, hollow, and semihollow shapes. Write for catalog on company letterhead to White Metal Rolling & Stamping Corp., 92 Moultrie St., Brooklyn 22, N. Y.

For more details circle NED-937 D9 on enclosed inquiry slip

Vibration Control in Industry

Vibration Mountings, Inc.—Various types of vibration control mountings and materials for machinery and equipment are covered in 4-page Bulletin 11. Positive isolation, negative isolation, steel spring mounts, rubber-in-shear, and pad type mountings are five basic types discussed. Selection guide shows types and lists recommended applications.

For more details circle NED-938 D9 on enclosed inquiry slip

Industrial & Automotive Engines

General Motors Corp., Detroit Diesel Engine Div.—Power ratings and over-all dimensions for over 100 in-line, V, and turbopower engines are provided in 12-page Brochure 6 SA. It includes fan-to-flywheel and base mounted units to power any industrial, construction, or petroleum equipment. Line consists of single, multiple, and turbopowered engines ranging from 20 to 1650 hp in three cylinder sizes.

For more details circle NED-939 D9 on enclosed inquiry slip

Fire Extinguishing Equipment

Fyr-Fyter Co.—28-page Brochure S-62 describes nine major brands of interior fire extinguishing systems, portable extinguishers, cabinets and other inside fire control products. Automatic sprinkler, carbon dioxide, dry chemical, foam and smoke detection control systems; hose and extinguisher cabinets; and latest extinguisher models are detailed.

For more details circle NED-940 D9 on enclosed inquiry slip

Aluminum Mill Products

Reynolds Metals Co.—Specifications for hundreds of alloys and forms of aluminum are given in Brochure GE16A. Data cover alloy and temper designations, fatigue and shearing strengths, and alloys available in foil, sheet and plate, wire, rod and bar, tubing and pipe, and extruded and structural shapes. Fabricating and finishing techniques are summarized.

For more details circle NED-941 D9 on enclosed inquiry slip

Corrosion Problems in Industry

Bridgeport Brass Co.—24-page brochure "Solving Corrosion Problems in Industry" explains how Duplex tubes help solve corrosion problems in condenser and heat exchanger equipment. These bi-metal tubes provide maximum corrosion resistance in condensers, and heat exchangers where two different corrosive media are in process. More than 150 different bi-metal combinations have been developed.

For more details circle NED-942 D9 on enclosed inquiry slip

Precision Switches

General Controls Co.—Three available data sheets respectively describe S-401, S-403 and S-421, and the S-610 Series of enclosed Klikswitches. They provide specifications and describe terminal arrangements and switch actions of these controls which are rated 15 and 20 amp at 125, 250, and 460 v ac, ½ amp at 125 v dc, and ¼ amp at 250 v dc.

For more details circle NED-943 D9 on enclosed inquiry slip

Optical Equipment Catalogs

Bausch & Lomb Optical Co.—Descriptive, illustrated 24-page Catalog L-86 lists current B&L optical equipment catalogs. It is divided into consumer, ophthalmic, and scientific and technical product classifications corresponding to major product divisions of the company. Index permits reader to select the proper catalog by product reference.

For more details circle NED-944 D9 on enclosed inquiry slip

Instrument & Control Switches

Allis-Chalmers Mfg. Co.—Construction features of Type 210 instrument and control switches are reviewed in 8-page Bulletin 14B8112B. Rated 20 amp continuous capacity, these maintained or spring return contact type units are used with circuit breakers, transformer tap changers, motorized rheostats, and instruments. They are designed for panel mounting.

For more details circle NED-945 D9 on enclosed inquiry slip

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Safety Glasses that are Good Looking from Any Angle
Meet "SAFEMASTER" — eye protection *any* worker would be proud to wear in plano or Safety R glasses. Nickel silver frame. Durable nonflammable plastic trim. Available only without side shields. 4 eye, 5 bridge sizes. Comfort cable and spatula tip temples. Strong, double-braced bridge. 6 Curve Super Armorplate clear or medium, dark, or extra dark Calobar lenses. Your nearest AO Safety Products Representative can supply you.
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For more details circle NED-946 D9 on enclosed inquiry slip

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1¼" and 1½" sizes are standard
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The cost of Allen Hex-Socket Cap Screws is only a minor fraction of your assembly costs . . . be sure you're getting the time-saving, cost saving advantages of genuine Allens!
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ALLEN HEAD
For more details circle NED-947 D9 on enclosed inquiry slip

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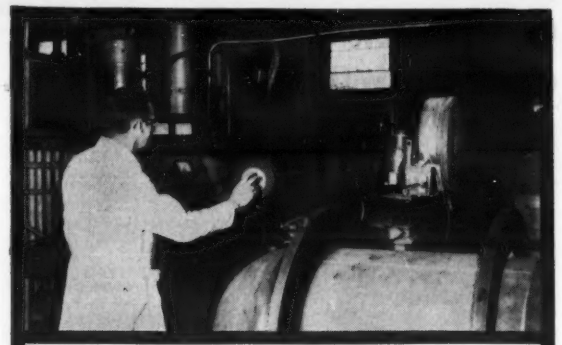

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Joining the heads to the body of this missile component is typical proof. Elimination of back-up rings *saved weight.* Welding on one side only *saved* time. And all added up to saved dollars. X-ray inspection proved soundest root passes . . . no porosity or cracks.

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Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

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▲ For more details circle NED-950 D9 on enclosed inquiry slip ▲

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Choose from 10 models in five capacities from 4" x 4" x 10½" x 9", wet or dry cut, for maintenance or production sawing.

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Cast base with motor mount, 45° vise, pressure relieved back stroke, length gauge bar, Oilite bearings throughout, Capacity 4" x 4".

$79.00 F.O.B. Factory

Complete with motor and switch, wired, ready-to-go. Less motor, $59.75.

No. 3C Wet Cut, 6¾" x 6¾"

Automatic lift on return stroke, fast acting 45° swivel vise, built-on coolant tank and pump, Oilite bearings throughout. Adjustable bronze gibs on guide bar. A rugged saw built for fast sawing, low maintenance. Available in dry cut, No. 3B.

No. 5 HY-DUTY, 10½" x 9"

Features pressure feed control, automatic lift on reverse stroke for fast sawing, long blade life. Foot lift to saw frame, automatic safety stop switch.

Ask your KELLER Dealer or write for Bulletin 257.

Specialized Builders of Power Hacksaws Since 1931.

KELLER DIVISION

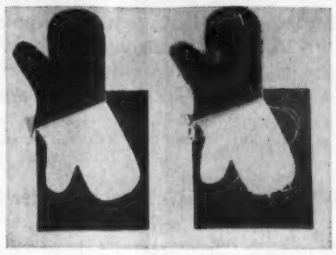
Sales Service Mfg. Co.

2365 University Avenue, St. Paul 14A, Minn.

▲ For more details circle NED-951 D9 on enclosed inquiry slip ▲

New Processes & Materials

ASBESTOS SAFETY CLOTH is nonfraying, abrasion resistant



With the same insulation characteristics of plain asbestos cloth, this latest asbestos safety fabric is lint-free, nonfraying, and has greater abrasion resistance. It does not unravel along cut edges and can be tailored to fit any pattern. Cloth is offered in 36 and 40-in. standard widths, or up to 60 in. wide, if specified, and weighs about 2.5 lb per sq yd. Fire curtains and blankets made from the cloth are fabricated to specification. Made by **Union Asbestos & Rubber Co.**, Fibrous Products Div., 1111 W. Perry St., Bloomington, Ill.

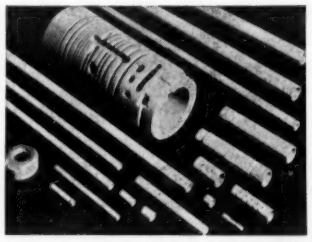
▲ For more details circle NED-952 D9 on enclosed inquiry slip ▲

UNDERBRUSH CONTROL PELLETS chemical destroys woody brush

Scattered over brush-infested areas, pelletized Dybar fenuron weed and brush killer assures positive control in a single low-cost treatment. Being nonvolatile, pellets can be used safely near sensitive crops, and they are noncorrosive, nonflammable, and present no toxicity hazard to people or animals. They can be scattered by hand, applied at base of stems or clusters, mechanically broadcast, or spread by airplane. Made by **E. I. du Pont de Nemours & Co.**, Wilmington 98, Del.

▲ For more details circle NED-953 D9 on enclosed inquiry slip ▲

PAPER BASE TUBING two new laminated machinable types

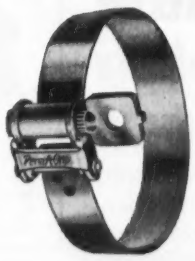


Easily fabricated without chipping or separation of laminations are two new grades of Insurok laminated, rolled, paper-base tubing. Both grades meet various military and federal specifications. Typical properties of T-301 tubing with a 1-in. ID and ⅛-in. wall thickness are 1 per cent water aborption, 19,000-psi compressive strength (axial), and dielectric strength of 400 v per mil minimum (perpendicular to laminations). Uniform appearance, light colored tubing is offered up to 12-in. ID, with wall thicknesses up to 2 in., and in lengths to 48 in. Made by **Richardson Co.**, 2700 Lake St., Melrose Park, Ill.

▲ For more details circle NED-954 D9 on enclosed inquiry slip ▲

THIS REEL-UP CLAMP ADJUSTS TO WIDE RANGE OF DIAMETERS

Just Three Standard Sizes for Diameters ¾" to 8"



Winding Tightens it. Pawl-and-Ratchet Locks it!

"PERM-A-GRIP"

A strong reusable clamp that is easily attached and tightened. Band is *reeled in* as clamp is tightened—no excess exposed to cause snagging or injury. Band is stainless steel—other parts heat-treated steel, cadmium plated. Applications include hose, tubing and flexible pipe connections; insulating covers and pads; rubber, plastic and metal duct work; other clamping, binding and holding uses.

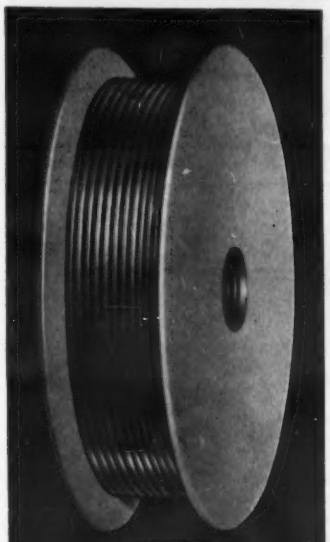
ORDER FROM YOUR DISTRIBUTOR

DIXON *Valve & Coupling Co.*

GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING, LTD. TORONTO

ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC. QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

▲ For more details circle NED-955 D9 on enclosed inquiry slip ▲



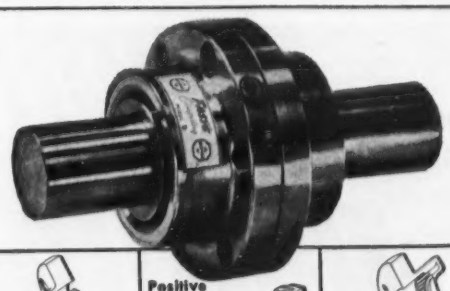
Make your tubular parts from WOLVERINE long-length level-wound coils

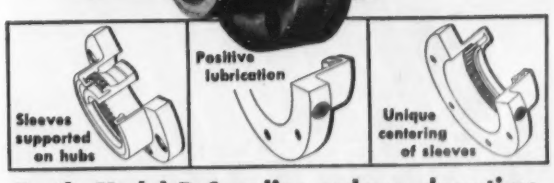
Just write

WOLVERINE TUBE
DIVISION OF
CALUMET & HECLA, INC.
17270 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

▲ For more details circle NED-956 D9 on enclosed inquiry slip ▲

▲ For more details circle NED-957 D9 on enclosed inquiry slip ▲





Fast's Model B Coupling reduces downtime and upkeep for light-to-medium drives!

Now you can profit from the durability and economy of famous Fast's couplings in a smaller and lower-cost version—available in 5 sizes for shafts ½" to 3¼" in diameter.

The Model B coupling gives you the same features that have made Fast's the world's leading coupling for over 35 years. You get the same trouble-free performance, longer service life and lower maintenance costs. You also get prompt delivery because stocks are on hand to meet practically every need. Free engineering service is also available.

Write today for more details to KOPPERS COMPANY, INC., Fast's Coupling Dept., 5504 Scott Street, Baltimore 3, Md.

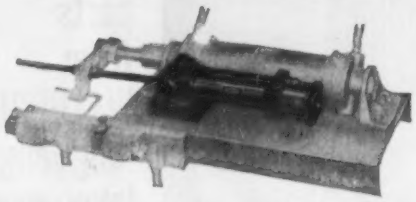
KOPPERS

THE ORIGINAL *FAST'S Couplings*

Engineered Products Sold with *Service*

▲ For more details circle NED-958 D9 on enclosed inquiry slip ▲

VERI-TROL HYDRAULIC
CHECKING CYLINDERS



—designed for use with air cylinders to smooth out stroke variations due to compressibility of air under irregular load conditions.

- ACCURATE SPEED CONTROL is dial-set, load-compensated to assure uniform stroke speed even with irregular loads.
- VISIBLE OIL RESERVOIR, easy to refill.
- 2,000 LB. CHECKING CAPACITY on out stroke, free return.
- 2", 4", 6", 9", 12", 15" and 18" checking stroke lengths.
- IDEAL FOR LOW-COST TOOL OR WORK-PIECE FEEDS.

Take the bumps and jumps out of air cylinder operation — install VERI-TROL checking cylinders wherever you want smooth, accurately-controlled stroke speed. Write now for free data bulletin.

Modernair CORPORATION
Dept. F4, 400 PREDA STREET, SAN LEANDRO, CALIF.
Member National Fluid Power Association 34

For more details circle NED-960 D9 on enclosed inquiry slip

CARBIDE "THINSAWS"

*Note patented Gay-Lee carbide tip mounting. Circular seat assures maximum brazing area and holding strength.

FOR FAST, PRECISION SAWING, SLOTTING or SLITTING and LONGER SAW LIFE

Gay-Lee Carbide "Thinsaws" maintain positive alignment for full-depth cutting without run-out. "Thinsaw" thickness as low as .030" with tolerance held to .0001". Sizes from 1¼" to 10" O.D.

Patented carbide tip design and circular seat mounting assure maximum brazing area, positive seating and greater holding strength — tips will not break loose.

For fast, precision sawing, slitting or slotting of cast-iron, non-ferrous, plastics, wood, etc., use Gay-Lee Carbide "Thinsaws". Any tooth form available. For application recommendations, send details of your problem.

Patented—Manufactured under license.

GAY-LEE COMPANY
CLAWSON • MICHIGAN
CARBIDE SAW SPECIALISTS

For more details circle NED-961 D9 on enclosed inquiry slip

Gary Galok* SUPER SERRATED ALUMINUM GRATING

Serrations scientifically designed to provide maximum positive footing. High strength to weight ratio, minimum deflection, maximum safety, corrosion resistant. Bars cannot turn, twist, loosen or fall out. Write for detailed specifications.

Gary SUPER Galok also available with plain bars. Sizes for every need.

*Patents Pending

Catalog N-49

ROCKWELL-STANDARD CORPORATION
GRATING DIVISION
4017 E. Seventh Ave., Gary, Indiana

For more details circle NED-962 D9 on enclosed inquiry slip

New Literature & Catalogs

Motors & Blowers

Heinze Electric Co.—Photos and diagrams in 16-page Catalog 6-59 on subfractional horsepower motors and blowers illustrate 2 and 4-pole induction, capacitor, universal, and gearmotors; single and double blowers; and blower heater units. Motor ratings range as low as 1/750 hp. Technical data and performance curves are presented.

For more details circle NED-963 D9 on enclosed inquiry slip

Transistor Switching Circuitry

Navigation Computer Corp.—"Notes on Transistor Switching Circuitry" is title of 16-page booklet showing the circuitry and specifications for a number of transistorized building block units for almost every phase of digital techniques. These Series 100 modules can be assembled in bench-top enclosures, or mounted in 19-in. wide relay racks.

For more details circle NED-964 D9 on enclosed inquiry slip

Electronic & Time Controls

Lumenite Electronic Co.—Automatic controls which include electronic liquid level, photoelectric relays, electronic switches, proximity relays, time switches, industrial timers, and magnetic switches are subject of illustrated 80-page catalog. Technical data aid in selection, application, and engineering of these devices.

For more details circle NED-965 D9 on enclosed inquiry slip

Variable-Speed Pulleys

T. B. Wood's Sons Co.—Technical data for five MS sheaves with ratings of 2, 3, 5, 10, and 15 hp are found in 12-page Bulletin 4101. Power is transmitted from a stationary flange through a removable sleeve cap which is keyed to the moving flange by torsionally resilient rubber keys. Bulletin pictures construction of these pulleys which eliminates freezing and sticking.

For more details circle NED-966 D9 on enclosed inquiry slip

Vacuum Casting Facilities

Sigourney Mfg. Corp.—This company has installed complete equipment and is offering custom service in the production of investment castings employing the latest vacuum metallurgy. Facilities for making steel, cobalt, nickel, and nonferrous precision castings are described in 4-page bulletin.

For more details circle NED-967 D9 on enclosed inquiry slip

Portable Pneumatic Grinders

Thomas C. Wilson, Inc.—Data on the recently introduced line of portable pneumatic grinders are contained in 12-page Catalog PT-58. Tools for practically any operation involving filing, grinding, cutting, and polishing with speeds ranging from 3100 to 60,000 rpm are detailed. Wheels, brushes, and accessories for use with these portable tools are covered also.

For more details circle NED-968 D9 on enclosed inquiry slip

New Vacuum Pumping Savings

NRC Rotary Gas Ballast Pump Model 100M. Other units with capacities from 1¼ to 400 CFM; blank-offs down to 5×10^{-5} mm. Hg.

are reported by users of NRC Rotary Gas Ballast Mechanical Vacuum Pumps. These pumps maintain their original high efficiency even when handling water and other condensable vapors. They have proved in thousands of installations that they save money three ways:

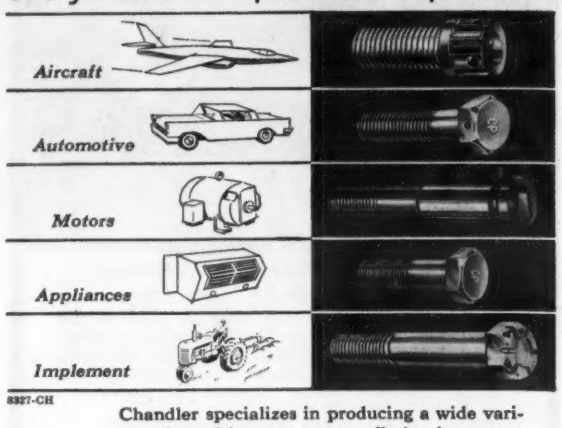
1. **Lower First Cost**—because no oil reclaiming equipment is needed.
2. **Lower Operating Cost**—because cycles are shortened by ability of pumps to maintain top speed throughout cycle after cycle.
3. **Lower Maintenance Cost**—because labor and material costs for frequent oil changes are avoided.

Send today for 16 page Bulletin 29-D.

NRC EQUIPMENT CORPORATION
SUBSIDIARY OF NATIONAL RESEARCH CORPORATION
DEPT. 29, CHARLEMONT ST., NEWTON HIGHLANDS, MASS.

For more details circle NED-969 D9 on enclosed inquiry slip

CHANDLER serves industry everywhere with precision cap screws



8327-CH

Chandler specializes in producing a wide variety of precision cap screws offering important savings in assembly and production costs. Using modern equipment and skilled personnel, cold-headed bolts with threads rolled after heat treating are made with special heads or threads, drilled heads or shanks . . . plated or coated to meet your requirements . . . and ground to close tolerances. Write for information.

CP chandler products corporation
1495 Chardon Road • Cleveland 17, Ohio

For more details circle NED-970 D9 on enclosed inquiry slip

MAKE CLEANER CUTS—No sanding, no finishing required. 2½" diameter saw blade gives finished, mill-edge cuts up to ⅝" in metal laminates such as Mirawal, Alliance Wall, ColorWall, Met-L-Wood and Armorply as well as wood.

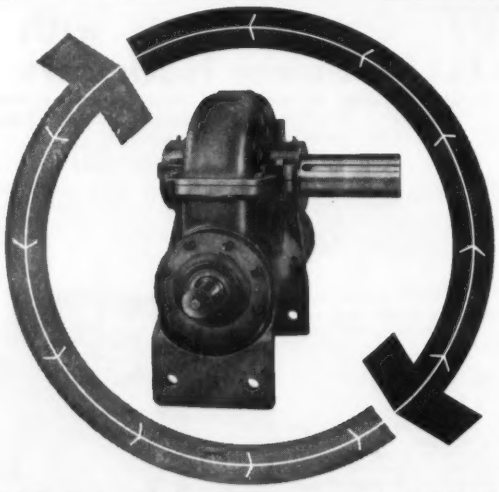
MAKE QUICKER CUTS—Heavy duty 110v. AC/DC portable motor. Zip thru Fiberglas, plastics, plastic laminates—3/16" aluminum—even 16 gauge steel. BALL BEARING DRIVE THRUOUT assures smooth, trouble-free operation.

Excellent for metal pan type acoustical tile ceiling.

Write for Catalog E-40
THE KETT TOOL CO.
5051 Madison Road
Cincinnati 27, Ohio

KETT
PANEL CUTTER SAW

For more details circle NED-971 D9 on enclosed inquiry slip



TULSA SPEED REDUCERS
• Low Cost • Compact • Heavy Duty • Worm Gear

Economize on speed reduction costs with Tulsa Speed Reducers. For intermittent heavy duty operation at slow speeds, you can't beat Tulsa Speed Reducers for initial low cost, minimum maintenance and outstanding performance. A wide range of models is available with maximum output torques ranging from 875 to 26,000 pound-feet. Some models available with automatic worm brake. For complete information write for Bulletin No. SR-56.

TULSA WINCH
DIVISION OF VICKERS, INCORPORATED
TULSA, OKLAHOMA

For more details circle NED-972 D9 on enclosed inquiry slip

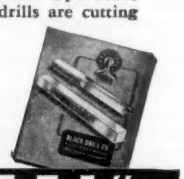
Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"



BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

▲ For more details circle NED-973 D9 on enclosed inquiry slip ▲

• *Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.*

Dowel—Straight—Countersunk—Angle and Spherical Ends
.020" to .1875" Diam.
.125" to 2" Length

Precise Specifications
Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
SEND US PRINTS FOR QUOTATION

COMMERCIAL CENTERLESS GRINDING COMPANY
6605 CEDAR AVE., CLEVELAND 3, OHIO
Phone: ENdicott 1-3412

▲ For more details circle NED-974 D9 on enclosed inquiry slip ▲

Hot Fluid Line Problems?

SOLVE THEM WITH
Aeroquip Flexible Hose of Teflon
and Reusable "*super gem*" Fittings*

Fluids can be conveyed safely at temperatures up to 500°F. using Aeroquip 2802 Hose of Teflon. Ideal for hot oils, solvents, steam and air, it is chemically inert and offers long trouble-free service, even under constant flexing and vibration. Write for Bulletin IEB-26B or call your nearby Aeroquip Distributor for details.

*U.S. Patent Nos. 2,833,567 and 2,731,279.
"*super gem*" is an Aeroquip Trademark
Teflon is DuPont's trade name for its tetrafluoroethylene resin

Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN
INDUSTRIAL DIVISION, VAN WERT, OHIO • WESTERN DIVISION, BURBANK, CALIFORNIA
AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO

▲ For more details circle NED-975 D9 on enclosed inquiry slip ▲

New Processes & Materials

DROSS RECLAIMER
improved chemically and physically

Effectiveness of Slago dross reclaimer has been improved chemically and physically by the addition of Carbox Spirits. Product is used to treat slag, remove impurities, and convert back to metal the dross of tin, lead, cadmium, zinc, and antimony. Increased wetting action and the reduction of surface tension of metal results from the chemical improvement. Physically, the revitalizing actions of metal spirits have been doubled in effectiveness. Metals treated with Slago have the clean spider web appearance of virgin metal. Six 1-lb shaker top trial cans are offered at $5 by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

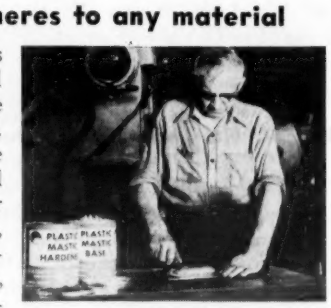
▲ For more details circle NED-976 D9 on enclosed inquiry slip ▲

PLASTIC ROOF COATING
metallic type offered in colors

Concrete and cementitious roof decks can be given seamless, multilayer coatings which do not buckle, blister, or wrinkle by application of a liquid thermoplastic roof coating which contains metallic pigment. Accidentally damaged areas are easily repaired or re-covered. Manual or pressure feed rollers up to 18 in. wide are used for applying the plastic "liquid foil" material. It dries to a dust-free state in a few minutes, and it withstands moderate foot traffic in 1 hr or heavy traffic in 12 hr. Offered in many colors, including brilliant copper and aluminum, the plastic coating withstands abrasion, water and steam, salt spray, acids, and alkalies. Made by **Grems Mfg. Co.**, Permalume Div., 5635 S. Sixth St., Klamath Falls, Oreg.

▲ For more details circle NED-977 D9 on enclosed inquiry slip ▲

REPAIR MASTIC
mix type adheres to any material



Industrial repair jobs that can be handled with Plastic Mastic are virtually unlimited. The epoxy - polyamide chemical compound can be used to repair floors, walls, ceilings, driveways, curbs, masonry, machinery, tanks, pipes, and furniture, and for filling breaks, holes, and cracks. General Repair Kit is supplied in 1-qt, ½-gal, and 2-gal sizes and consists of two cans of equal size—one containing the white base, the other a black hardener. Two-part mastic can be formed to a fine edge and, once cured, can be sanded, drilled and machined. It is nonflammable and nonirritating and bonds to concrete, metals, wood, ceramics, glass, rubber, cloth, paper, and most plastics. The mix cures hard in 4 hr and can be walked on in 8 hr. Developed by **Williamson Adhesives, Inc.**, 8220 Kimball Ave., Skokie, Ill.

▲ For more details circle NED-978 D9 on enclosed inquiry slip ▲

CADMIUM COATING PROCESS
prevents hydrogen embrittlement

Method for vacuum deposition of cadmium makes it possible to protect high tensile steels against corrosion without danger of hydrogen embrittlement. Samples, some of which were flexed repeatedly, passed 96-hr salt spray and salt bath tests without trace of corrosion. Process is related in principle to vacuum metallizing used to decorate plastic and die casting, except that the cadmium coating is usually about 100 times thicker, up to 0.001 in. and more if required. The cadmium coating is hole-free to assure an effective barrier. Typical applications would be on aircraft landing gear structures, control components, threaded fasteners, and other highly stressed elements. Process information and vacuum plating equipment are supplied by **NRC Equipment Corp.**, 160 Charlemont St., Newton, Mass.

▲ For more details circle NED-979 D9 on enclosed inquiry slip ▲

CUT GOGGLE CLEANING COSTS with
K-LENS-M
REG. U.S. & CAN. PAT. OFF.
BETTER VISION PRODUCTS

Personal and Protective Eye Wear Stay Clean Longer with K-Lens-M at Lower Cost per Cleaning.

The Modern Liquid Method Cleans and Anti-Fogs Glass or Plastic

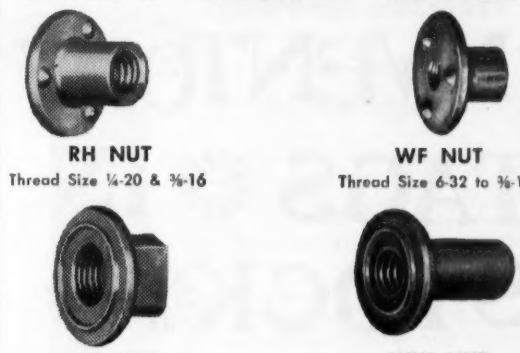
For FREE Sample: send company letterhead

The WILKINS Co., Inc.
Cortland 32, N. Y.

Wise to Choose — Safe to Use
© Copyright, The Wilkins Co., Inc. 1959

▲ For more details circle NED-980 D9 on enclosed inquiry slip ▲

OHIO WELD NUTS



RH NUT
Thread Size ¼-20 & ⅜-16

WF NUT
Thread Size 6-32 to ⅜-16

SF NUT
Thread Size 5/16-18 to ½-13

WW NUT
Thread Size 6-32 to ⅜-16

OHIO flanged weld nuts provide extra-long thread engagement and are ideal for assemblies requiring strong primary fasteners. They can also serve as spacers or bearing surfaces where required.

Samples and information furnished upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST STREET BEREA, OHIO

▲ For more details circle NED-981 D9 on enclosed inquiry slip ▲

NO TEMPERATURE OVERSHOOT

WHEN SIMPLYTROL MINDS THE POT
time-proportioning controller has unique anticipating action

Low-cost Simplytrol gives you high-accuracy temperature control . . . effectively maintains temperature to within ± 1°F. of set point on most applications. An ingenious anticipating circuit eliminates overshoot difficulties by shutting off heat input at a time-proportioned interval before the set-point temperature level is attained.

Built around the well-proven A.P.I. meter-relay design, Simplytrol uses no amplifying circuits or vacuum tubes; it is exceptionally stable and reliable. The unit is available in thirty ranges from —400°F. to +3000°F., is packaged in a newly re-styled table-mounting case that converts in minutes to panel mounting.

SEND FOR DATA SHEET 9-B

api **ASSEMBLY PRODUCTS, INC.**
Chesterland 61, Ohio
S.A., 1919

▲ For more details circle NED-982 D9 on enclosed inquiry slip ▲

3 NEW THERMOMETERS WORTH LOOKING INTO

3"-DIAL Straight Form Model
Full-view dial is parallel to stem. Stem can be located at any specified position around entire circumference of head. (Model No. 1740)

4" DISHED-DIAL TYPE
Readability of 5-inch thermometer at cost of 3-inch. Dished type dial reduces parallax to a minimum. Standard RMC accuracy and dependability. (Model No. 1950)

4"-DIAL Maximum Set-Hand
Registers maximum or minimum temperatures. Set hand is magnetically carried—cannot affect movement or accuracy of indicating pointer. (Model No. 1925)

Write FOR NEW 1959 RMC CATALOG

RMC ROCHESTER MFG. CO.
114 Rockwood St., Rochester 10, N.Y.
INDUSTRIAL THERMOMETERS

▲ For more details circle NED-996 D9 on enclosed inquiry slip ▲

2 STYLES INVENTORY TAGS IN STOCK ALWAYS

ESTABLISHED 1893 Campbell

QUALITY PACKAGING SINCE 1893.

CAMPBELL BOX & TAG CO.
DIVISION OF STONE CONTAINER CORPORATION
MAIN & NEW STREETS SOUTH BEND 23, INDIANA

▲ For more details circle NED-997 D9 on enclosed inquiry slip ▲

CHECK THE CABLE-CONTROL ADVANTAGES OF Gleason TWO-WAY PAYOUT REELS

The Two-Way Payout feature on Gleason Reels permits cable control to *both sides* of travel center. You need only one-half the usual cable length. This is only one of many Gleason advantages that provide twist-proof cable protection and smooth power control to equipment in motion. Available in many types and sizes, also in watertight, dust-tight, or explosion-proof type construction.

Write for your copy of Gleason "Idea Sparker" Catalog on Reel applications—or for a Gleason-engineered suggestion on your problem.

Gleason Reel Corp
738 N. Plankinton Ave., Milwaukee 3, Wis.
SPRING REEL HEADQUARTERS FOR ALL INDUSTRY

▲ For more details circle NED-998 D9 on enclosed inquiry slip ▲

New Literature & Catalogs

Wire-Forming Machine

Torrington Mfg. Co.—Specification table provided in 6-page technical bulletin on the UB-3 Verti-slide vertical four-slide machine gives data necessary in evaluating machine's characteristics for particular requirements. This wire-forming machine features high production, accuracy, and rapid setup advantages.

▲ For more details circle NED-999 D9 on enclosed inquiry slip ▲

Titanium

Harvey Aluminum—36-page booklet on titanium is a comprehensive reference on the latest technical information available on this metal. It tells how titanium is made, describes its advantages and corrosion properties, reviews titanium mill products available, and provides design data, weight tables, manufacturing limits, and tolerances. Machining and joining are also covered.

▲ For more details circle NED-1000 D9 on enclosed inquiry slip ▲

Cast Steel Valves

Kerotest Mfg. Co.—Specifications, trim material, recommended services, and parts ordering information for line of cast steel gate, globe, angle, and swing check valves are covered in 20-page illustrated Catalog KS1-M. Valves are for refinery, industrial, and marine use.

▲ For more details circle NED-1001 D9 on enclosed inquiry slip ▲

Antifriction Lubricants

Whitmore Mfg. Co.—Uses of two antifriction lubricating compounds which have no melting or dropping point are covered in a folder, along with test data and performance characteristics. Constant protection is provided to roller, ball, and sleeve bearings, sliding surfaces in "hot" bearing applications, and in areas with high ambient heat.

▲ For more details circle NED-1002 D9 on enclosed inquiry slip ▲

Millivoltmeters

Minneapolis-Honeywell Regulator Co., Industrial Div.—Operating principles, specifications, features, and other data on noncontrol and control millivoltmeters are found in 28-page Catalog C10-1. Pyr-O-Vane, pulse Pyr-O-Vane, Protect-O-Vane, and Pyr-O-Volt models are covered.

▲ For more details circle NED-1003 D9 on enclosed inquiry slip ▲

Fences, Hardware Cloth, Nails, Etc.

U. S. Steel Corp., American Steel & Wire Div.—"American Fence Products," an illustrated 40-page general catalog, describes numerous types of fences and posts, plus such other products as bale ties, hardware cloth, nails, roofing sheets, welded wire fabric, stone wire, and agricultural wire rope. Product specifications are included.

▲ For more details circle NED-1004 D9 on enclosed inquiry slip ▲

Flexible Shafting

F. W. Stewart Corp.—Advantages and the simplicity of designing a flexible shaft into products which require remote control are explained in bulletin on Circle Ess flexible shafting. Specification charts for remote control and power drive cables, plus data on casing materials, are given.

▲ For more details circle NED-1005 D9 on enclosed inquiry slip ▲

Instrument Plates & Cluster Gears

PIC Design Corp.—Low-cost, built-to-order, packaged servomechanism gear trains can be assembled from the instrument plates and cluster gears described in 16-page illustrated booklet. A minimum of design and engineering time is required for their assembly. Wide variety of combinations is possible.

▲ For more details circle NED-1006 D9 on enclosed inquiry slip ▲

Flexible Electric Heaters

Edwin L. Wiegand Co.—Sizes from smaller than a postage stamp to 24 x 125 in. are available in line of Chromalox flexible and molded electric heaters. Described in 4-page Bulletin J-1003, these lightweight heaters can be shaped or wrapped to fit almost anywhere. Temperature limitations range up to 800° F.

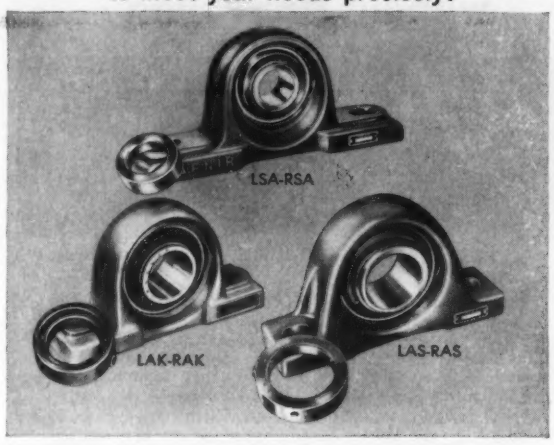
▲ For more details circle NED-1007 D9 on enclosed inquiry slip ▲

Circuit Breakers

Wood Electric Co.—Thermal type, trip-free push-pull and toggle switch types of circuit breakers are described in illustrated catalog. They can be utilized as a combination switch and circuit breaker. All have a high rupture capacity. Specifications of all models are given.

▲ For more details circle NED-1008 D9 on enclosed inquiry slip ▲

Standard duty...different sized housings... to meet your needs precisely!



FAFNIR BALL BEARING PILLOW BLOCKS

New, wider size range now makes it possible for you to equip with Fafnir Ball Bearing Pillow Blocks when you need bearing replacements.

For example, the three shown here are all standard duty but built to different housing dimensions to meet various requirements. All feature the Fafnir wide inner ring ball bearing with self-locking collar for easy installation.

You have a choice of contact-type Plya-Seals (R-Series), or slinger-type Mechani-Seals (L-Series), for higher speeds. See your Fafnir Distributor. Or write for information to The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS

▲ For more details circle NED-1009 D9 on enclosed inquiry slip ▲

New budget dryer for small dry-air needs

Here's LECTRODRYER's economical solution to small-scale requirements for extremely dry air or gas for instrument controls, electronics, pilot plant operations. This new Dryer *automatically* supplies up to 20 cubic feet per minute of air, dried to a dewpoint of −60°F or lower. Installation is simple, and the 68-pound unit can be handled by one man. Budget Dryer is low in first cost, designed for a minimum of attention.

Send for bulletin B6A and ordering information. Write Pittsburgh Lectrodryer Division, McGraw-Edison Company, 326 32nd Street, Pittsburgh 30, Pennsylvania.

Lectrodryer® McGRAW EDISON

▲ For more details circle NED-1010 D9 on enclosed inquiry slip ▲

BEFORE YOU INSTALL OR REPAIR ANOTHER FLOOR...

FREE 16-PAGE BOOKLET . . . with full details on applications, advantages and specifications for MASTERPLATE iron-clad metallic aggregate floors. Write for your free copy.

. . . get all the facts now on MASTERPLATE—industry's toughest floor. Install the *right floor* now to save thousands of dollars in floor repairs and lower production costs.

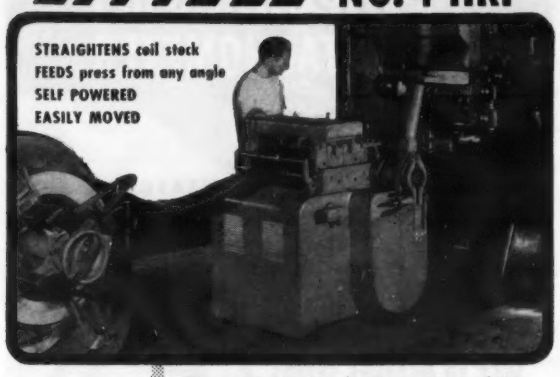
The Master Builders Co., Cleveland 3, Ohio
Division of American-Marietta Co.

MASTER BUILDERS. MASTERPLATE*

*MASTERPLATE is a registered trademark of The Master Builders Co. for its specially prepared, metallic aggregate for producing "iron-clad" concrete floors.

▲ For more details circle NED-1011 D9 on enclosed inquiry slip ▲

LITTELL NO. 4 HRP



TODAY'S ORDER SHIPS TOMORROW!

The straightening-feeding action of this HRP (Hydraulic Rack and Pinion Straightener-Feed) is synchronized to the speed of the press with one electrical connection. Two standard sizes for maximum stock width of 12" and 18" and thicknesses up to .125". (Special 24" width machines not stocked.) Standard 19" feed lengths double cycled to 38".

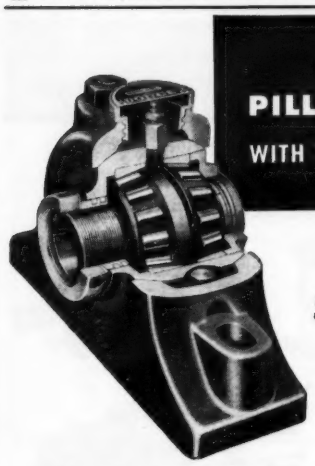
Write for Catalog "B"

F. J. LITTELL MACHINE CO.

SERVING USERS OF COIL STOCK
Branches: Detroit Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

For more details circle NED-1012 D9 on enclosed inquiry slip



DODGE PILLOW BLOCKS WITH TIMKEN BEARINGS

Super-Quality!

America's super-quality line—with a 35 year record of keeping performance *up* and costs *down!* Five types—to fit practically any service condition. All assembled, adjusted, lubricated and *sealed* at the factory for precision performance—long life—dependability. Write for bulletin of complete technical data.

DODGE MANUFACTURING CORPORATION, 2100 Union, Mishawaka, Ind.

DODGE of Mishawaka, Ind.

For more details circle NED-1013 D9 on enclosed inquiry slip

A modern truck for modern plants
The HydroLectric
with most modern features

- Two Drive Wheels instead of one
- Braking with handle in any position
- Four Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease —Greater Maneuverability
- 50% less Maintenance —Easy Accessibility
- Greater Tire Capacity —Equivalent Load Ratings

• Write for Bulletin K N

LIFT TRUCKS INC. W.W.W. STUEBING CINCINNATI

A TRUCK FOR EVERY PURPOSE AND MATERIAL

LIFT TRUCKS, INC. CINCINNATI 14, OHIO

For more details circle NED-1014 D9 on enclosed inquiry slip

New Literature & Catalogs

EPOXY PATCH KIT
repairs tools, castings, machines

Strong enough for repair of ferrous and nonferrous metal castings, plastics, or fittings on vacuum vessels, the Hysol Epoxy Patch Kit 6C contains two flexible tubes of base resin and hardener. They are mixed in equal quantities from equal-length beads squeezed from each tube. The no-flow material is used at room temperature and complete hardening occurs in 1 to 2 hr. Time can be accelerated by application of low heat. Made by **Houghton Laboratories, Inc.**, 333 Bush St., Olean, N. Y.

For more details circle NED-1015 D9 on enclosed inquiry slip

LETTERS & NUMBERS
made of long-wearing plastic

Eight colors and black are available in each of four stock sizes of die-cut vinyl plastic letters and numbers, used for making industrial signs. The ½, ⅝, 2, and 3-in. sizes are made with removable Butter-Fli backing on the pressure-sensitive tape. Colors are yellow, red, white, brown, green, orange, blue, and silver. Made by **M & C Products Co.**, Dept. D, 6918 State Rd., Philadelphia 35, Pa.

For more details circle NED-1016 D9 on enclosed inquiry slip

FORMABLE PAPER MATERIALS
fabricated with heat and pressure

Using conventional forming processes of heat and pressure, a wide range of paper base materials can be shaped into an almost limitless array of boxes, trays, frames, parts, panels, and hundreds of other objects. Materials combine a thermoplastic with craft paper which features all-directional stretch. They range in thickness from single ply a few thousandths of an inch thick to multiple ply resin laminates ¼-in. or more thick. To date, most of the work has been with polystyrene, but other thermoplastics are being evaluated. Brown or white in color, it can be finished as desired. Present forming techniques employ mechanical, hydraulic, and air presses, though vacuum and air pressure forming is also being used with female dies. Typical parts are shown. Developed by **Cincinnati Industries, Inc.**, 382 Carthage Ave., Cincinnati 15, Ohio.

For more details circle NED-1017 D9 on enclosed inquiry slip

ALL-PURPOSE ENAMEL
for use on wood or metal

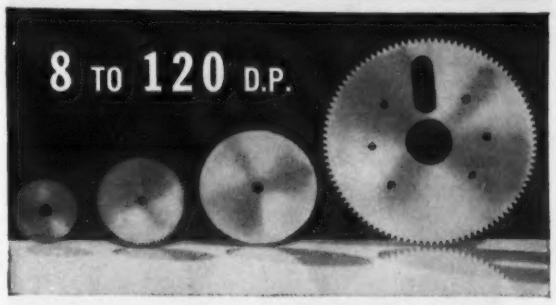
Adaptable for interior or exterior use on wood or metal, Industrial Speedenamel is an all-purpose alkyd enamel. It can be applied with brush, spray, or dip and can be air dried or baked in conventional equipment. The resultant finish is a tough, flexible film which exhibits excellent resistance to wear and weather. It has good gloss and color retention, and adheres securely to metal. Made by **Glidden Co.**, 11001 Madison Ave., Cleveland 2, Ohio.

For more details circle NED-1018 D9 on enclosed inquiry slip

INDUSTRIAL SOLVENT
for cleaning and rust prevention

Rust removal and prevention; protection of equipment against humidity and sweating; and cleaning of dirt, gum, lint, and oily deposits from machinery are uses of No. 9 industrial solvent. It is applied by brush and will not injure cotton, wool, silk, or synthetic yarns. Solvent can be used on knives, taps, dies, and other precision parts, and to loosen corroded nuts, bolts, locks, and pipe. Made by **Frank A. Hoppe, Inc.**, 2314 N. Eighth St., Philadelphia 33, Pa.

For more details circle NED-1019 D9 on enclosed inquiry slip



LONG LIST OF STOCK GEAR DIES OFFERS YOU BIG SAVINGS!

ACCURATE STAMPED GEARS by *WINZELER* are BIG savers of time and money. Single stampings are laminated to wide faces at savings up to 60%! Further economies are made possible by a BIG range of *stock* Dies. Modern new plant, methods, and equipment now greatly increase production speed, efficiency and *economy!* Send blue prints. Tell us about your needs today. No obligation.

SEND FOR...

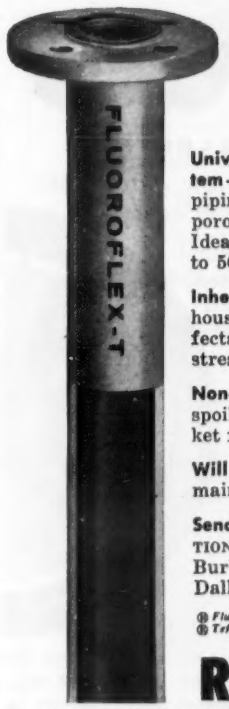
New list of WINZELER-made stock Gear Dies. Ask for it on company letterhead, *please!*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
7355 W. WILSON AVENUE • CHICAGO 31, ILLINOIS

For more details circle NED-1020 D9 on enclosed inquiry slip

Piping made permanent
with Teflon® at its best



Universally inert, corrosion-proof system—that's Fluoroflex®-T Type S steel piping lined with a high density, nonporous compound of virgin Teflon. Ideal for practically *any* fluid service to 500°F.

Inherent thermal equilibrium between housing and liner frees pipe from effects of thermal shock and fatigue stress . . . prevents cracking at flare.

Non-contaminating — can't cause batch spoilage. Liner extends over full gasket face, providing positive seal.

Will not corrode, wear or break — no maintenance, no downtime.

Send for data. RESISTOFLEX CORPORATION, Roseland, N. J. Western Plant: Burbank, Calif., Southwestern Plant, Dallas, Tex. Dept. 226

® *Fluoroflex is a Resistoflex trademark, reg., U.S. pat. off.*
® *Teflon is DuPont's trademark for TFE fluorocarbon resins.*

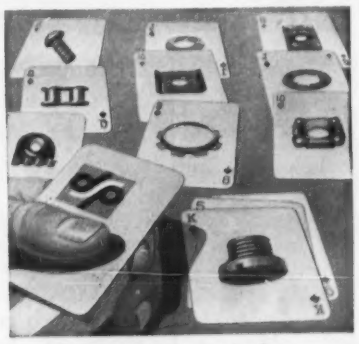
RESISTOFLEX

For more details circle NED-1021 D9 on enclosed inquiry slip

VIBRATORY FEEDER for light, highly finished or fragile parts.

ROTARY FEEDER for high production feeding.

ROTARY HIGH SHELL FEEDER for maximum holding capacity.

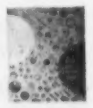


Shuffle and deal parts for automatic assembly with

DPS selective feeders

It takes fast, automatic feeding to satisfy the appetites of today's automatic assembly machines. And nowhere can you duplicate the range of equipment, the specialized experience in selective feeders offered by Detroit Power Screwdriver Company.

The most complete line in industry, DPS parts feeders include rotary, vibratory and elevator types. They handle any product from the tiniest of screws to assembly components the size of your fist . . . range in holding area from eighty cubic inches to 20 cubic feet.



DETROIT POWER SCREWDRIVER COMPANY 15,037
2819 W. Fort St. • Detroit 16, Michigan
A Subsidiary of Link-Belt Company

For more details circle NED-1022 D9 on enclosed inquiry slip

ClarkeAmatic

BATTERY POWERED FLOOR MAINTAINER cuts labor costs to 12¢ per hour

This Clarke self-propelled floor maintainer cleans floors fast – scrubs, picks up and dries all in one easy, automatic operation, covering 12,000 sq. ft. per hour, slashing costs to only 1/12 of the estimated national average wage rate. You get clean floors for dimes instead of dollars.

Clarke FLOOR MACHINE CO.
Formerly Clarke Sanding Machine Company

224M. Clay Ave., Muskegon, Mich.
Authorized Sales Representatives and Service Branches in Principal Cities.
DISTRIBUTED IN CANADA: G. H. Wood & Co., Ltd., P.O. Box 34, Toronto 14, Ont.

▲ For more details circle NED-1023 D9 on enclosed inquiry slip ▲

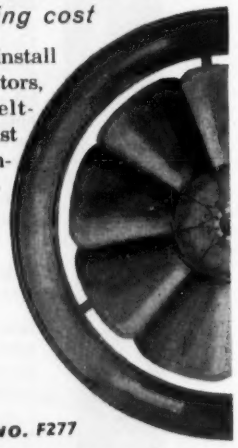
OSCILLATORS
AIR CIRCULATORS
EXHAUST

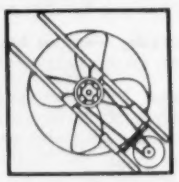
FANS

BY EMERSON-ELECTRIC

low initial cost
low operating cost

You save money when you install quiet, efficient fans — oscillators, air circulators and both belt-drive and direct-drive exhaust fans—backed by the Emerson-Electric famous factory-to-user guarantee.



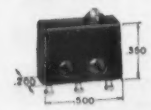


WRITE FOR FREE CATALOG NO. F277

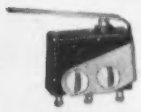
EMERSON ELECTRIC of St. Louis • *Since 1890*
8100 FLORISSANT AVE. • ST. LOUIS 21, MO.

▲ For more details circle NED-1024 D9 on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches



ACTUAL SIZE



LEAF ACTUATOR

ROLLER LEAF ACTUATOR

This NEW small switch... 50% smaller, 38% lighter than any other

The MICRO SWITCH "SX" Sub-subminiature switch combines a new conception of small size—10 may be mounted in a square inch —with ample electrical capacity and extremely long life.

The switch is 50% smaller and weighs 38% less than any previous switch. It is a completely new precise switch—not a shrinkage of an existing design.

Auxiliary actuators, two of which are shown, add to the versatility of application. Others are pivoted lever and pivoted roller lever variations. All are of stainless steel.

Rated: 5 amps. x 115/230 vac; 28vdc

For complete information send for Data Sheet No. 148.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A Division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ont.

Honeywell
MICRO SWITCH Precision Switches

▲ For more details circle NED-1025 D9 on enclosed inquiry slip ▲

New Processes & Materials

Worm Gear Speed Reducers

Winsmith, Inc.—Series STD torque arm and Series SFD flange mounted worm gear speed reducers are both available in three sizes covering an output range of 0.041 to 2.552 hp, ratios from 66 2/3 to 4466:1, and torques of 1380 to 7678 lb-in. Twelve-page Catalog HSDR-58 furnishes dimensions for high and slow speed shaft bores, plans and elevations of all shaft arrangements, and weight tables relative to these double reduction, hollow shaft units.

▲ For more details circle NED-1026 D9 on enclosed inquiry slip ▲

Screw Conveyors

Central Mine & Equipment Co.—Screw conveyors for chemical, food processing, and other industries are subject of descriptive 4-page Catalog 1058. They can be fabricated of stainless steel, Inconel, Monel, Hastelloy, Illium, and Nitralloy in any diameter and pitch.

▲ For more details circle NED-1027 D9 on enclosed inquiry slip ▲

Applications of O-Rings

Garlock Packing Co.—20-page Booklet AD-148 on O-rings discusses materials of construction, dynamic and static applications, use of back-up or nonextrusion rings, and groove design. One section of considerable interest to designers is devoted to methods of determining nonstandard groove dimensions for O-ring dynamic packings.

▲ For more details circle NED-1028 D9 on enclosed inquiry slip ▲

Sintered Nylon Parts

Halex Corp.—Nylon components formed by cold pressing and oil sintering nylon powders are described in illustrated 4-page Bulletin BR-11. Porous type of Nylasint is also described. Property and application data on oil-impregnated parts with inorganic fillers are included.

▲ For more details circle NED-1029 D9 on enclosed inquiry slip ▲

Industrial Diamond Tools

A. Landau Co.—Single point diamond dressers, hardness testing diamonds, boring and turning tools, gear grinding dressers, thread grinding tools, and miter cutters are among the broad line of industrial diamond tools illustrated and described in 20-page catalog. Selection, use, and care information is included.

▲ For more details circle NED-1030 D9 on enclosed inquiry slip ▲

Tool, Die, Jig & Fixture Components

Jergens Tool Specialty Co.—Specifications and cost-saving data on over 2000 standard tool, die, jig, and fixture components are found in the 84 pages of 1959 catalog. Line includes work holding equipment, chuck jaw blanks, handles, knobs, wheels, strap clamp assemblies, forged items, and many other components. Specifications and tracing templates are included.

▲ For more details circle NED-1031 D9 on enclosed inquiry slip ▲

Self-Cleaning Strainers

S. P. Kinney Engineers, Inc.—Line of automatic and twin basket self-cleaning strainers for removal and continuous disposal of fine suspended particles from raw or process liquids is covered in detail in 34-page illustrated Catalog 500. Pipe line sizes range from 2 to 48 in. All technical details are given, along with a list of installations.

▲ For more details circle NED-1032 D9 on enclosed inquiry slip ▲

Friction & Fluid Drives

Twin Disc Clutch Co.—Condensed specifications on all Twin Disc friction and fluid drives are given in illustrated 20-page Bulletin 314. Engineering data, schematics, dimensions, and other information are included for friction clutches, power take-offs, torque converters, and marine gears.

▲ For more details circle NED-1033 D9 on enclosed inquiry slip ▲

Carbide Tools, Blanks, Shapes

United-Greenfield Corp., Unimet Carbides Div.—32-page Catalog A-102 descriptively covers standard carbide tools, tips, blanks, inserts, wear parts, and special shapes. Performance details on regular low cost and premium grades are presented. Color-keyed tables are featured.

▲ For more details circle NED-1034 D9 on enclosed inquiry slip ▲

Dry Chemical Feeders

Infilco Inc.—Construction and operation of Model E volumetric extrusion type dry chemical feeders are discussed in 16-page bulletin. Dimensional planographs of all sizes for manual or automatic operation in proportion to flow, pH, etc., are included, along with feed ranges for various chemicals.

▲ For more details circle NED-1035 D9 on enclosed inquiry slip ▲

The Metron 3 in 1 HAND TACHOMETER...

The most **CONVENIENT**
most **ACCURATE**
most **READABLE**

WAY TO MEASURE SPEEDS OF YOUR MACHINES

3 sliding-scale ranges in 1 instrument!

It's more *readable*—you see only one set of scale numbers at a time. It's more *dependable*—has a simpler operating principle. You switch quickly to any of 3 "sliding scale" ranges. You cannot damage by overspeeding. You get steady readings—electric cable prevents instrument vibration.

For full details write for bulletin 103

Metron INSTRUMENT COMPANY
436 Lincoln St., Denver 3, Colo.
DISTRICT OFFICES • NEW YORK • CHICAGO • CLEVELAND

▲ For more details circle NED-1036 D9 on enclosed inquiry slip ▲

SPECIFIC for Braking • Actuation • Control

WAGNER SYSTEMS applied by Experienced Application Engineers COMPLETE . . . CONVENIENTLY PACKED

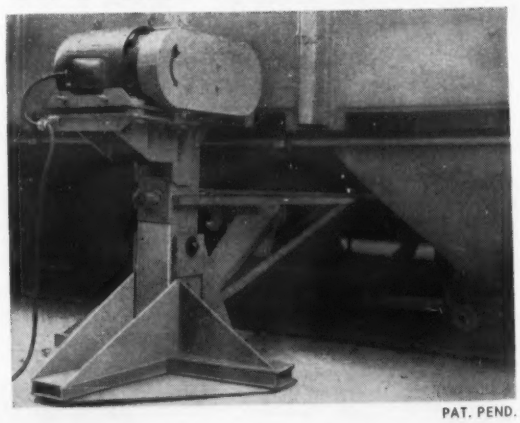
Don't just guess about the parts you need . . . Look to Wagner for numerous air and hydraulic systems to supply the muscle power for: FAIL-SAFE emergency braking...HIGH CONTROLLED force actuations...REMOTE CONTROLLED system actuation. Your Wagner Systems Engineer is backed by many years of experience in braking and control system design. Call him today.

W159-3

WAGNER ELECTRIC Corporation
6435 Plymouth Ave.
St. Louis 14, Mo.

▲ For more details circle NED-1037 D9 on enclosed inquiry slip ▲

UNLOAD COVERED HOPPER CARS

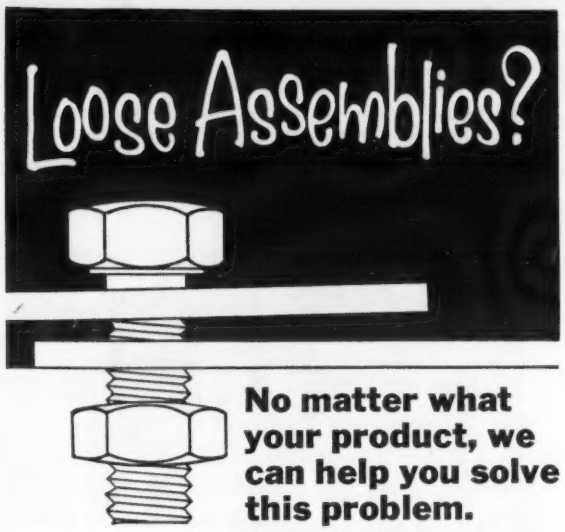


PAT. PEND.

Now you can buy a shaker that does a real job of vibrating bulk materials out of covered hopper cars. The National Model 81 is handled by just one man and it will shake the contents out just as fast as you can take them away.

NATIONAL CONVEYOR & SUPPLY CO.
361 N. HARDING AVE. CHICAGO 24, ILL.

▲ For more details circle NED-1038 D9 on enclosed inquiry slip ▲



No matter what your product, we can help you solve this problem.

WRITE FOR FREE DATA ON TORQUE-TENSION RELATIONSHIPS.

SKIDMORE-WILHELM Manufacturing Company

446 S. GREEN ROAD • CLEVELAND, OHIO

▲ For more details circle NED-1039 D9 on enclosed inquiry slip ▲

New low cost VERSATILITY! TWO LIFTS IN ONE!

"Weld-Bilt" PRODUCTS

HINGED VERTI-LIFT Model "90" HY-BOY

- Take it through Doorways
- Move it onto Elevators
- Folded — Lifts 55" from floor
- Extended — Lifts 90" from floor

OFFERS TWO LIFTING RANGES IN ONE UNIT: To lift or stack up to 90", simply swing up the hinged extension; it automatically locks into place. For moving through doors or under any low clearance, just trip the catch lever and fold down the tower extension. For up to 55" lift from floor no need to raise extension.

Special stops prevent over-travel at either height.

FEATURES. • Powered by 12-volt heavy-duty battery • Built-in safety valve, recharger, ammeter and indicator light • Unitized Electro-Hydraulic Pump, and Heavy-Duty, Chrome-plated Ram • 1500 Pound Capacity at 13" load center • Push Button Controls • Special Accessories for Special Tasks

NOW . . . Get your copy of new CM558 HY-BOY Catalog!

WEST BEND EQUIPMENT CORP.

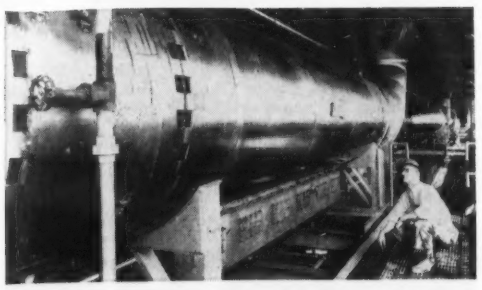
Materials Handling Engineers

311 Water Street • West Bend, Wisconsin

See Our Exhibit At Materials Handling Show, Cleveland, Booth Number 328

▲ For more details circle NED-1040 D9 on enclosed inquiry slip ▲

New! JOY-MICRODYNE DUST COLLECTOR INSTALLS IN DUCT



The cylindrically-shaped Joy-Microdyne Dust Collector uses just 1/10th the space of previous collectors . . . yet cleans air of 99% of particles 5 microns or larger (92% of 2 microns, etc). If only dirty water is available, clean with a Delpark Filter; recirculate filtered water.

WSW 1 6980-225

Write for Bulletin 225-54

JOY MANUFACTURING COMPANY

OLIVER BUILDING, PITTSBURGH 22, PA.

In Canada: Joy Mfg. Co., (Canada) Limited, Galt, Ontario

▲ For more details circle NED-1041 D9 on enclosed inquiry slip ▲

New Processes & Materials

FABRIC CEMENT for waterproof patches, repairs

Applied with paddle, brush, or finger, Tehr-Greeze white fabric cement dries almost instantly when used to repair any grease-free, clean, and dry material that it can penetrate. It can be used for waterproof patching, mending, and repairing fabric bags, tents, overalls, gloves, upholstering, tarpaulins, and other fabrics. Shoes, belts, and other leather and leatherette articles can also be mended. Another use is sticking labels to metal cans, paper cartons, and glass containers. Cement is offered in 2 to 32-oz containers and in 1 and 5-gal quantities. Made by **Val-A Co.**, 700 W. Root St., Chicago 9, Ill.

▲ For more details circle NED-1042 D9 on enclosed inquiry slip ▲

MASONRY LEAK SEALER stops flowing or seeping water

Leaks in masonry walls or floors can be stopped within minutes with Hydro-Plug, an easy-to-use leak repairing material. Gushing or trickling water leaks are stopped by holding a ram - shaped plug of the mixed material in the hole for about 5 min. Applied without chipping or chiseling, the material begins to set as soon as it is mixed. It can also be used to repair dry holes or cracks by application with putty knife or trowel. A combination of rubber-silicone liquid and a dry hydraulic cement, it can also be mixed to brushing consistency for use in fine cracks. Quart, half-gallon, and gallon units are offered for $1.75, $2.95, and $4.45. Made by **Camp Co.**, 6958 S. State St., Chicago 21, Ill.

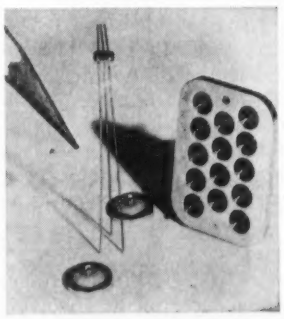
▲ For more details circle NED-1043 D9 on enclosed inquiry slip ▲

PRINTED CIRCUIT PLASTIC laminate is flame resistant

Electrical insulation and moisture absorption properties which exceed NEMA required values for Grade XXXP laminated plastic for printed circuit use are inherent in Phenolite Grade XXXP-475. It has excellent punching characteristics with a minimum of heating at 130 to 150° F. The self-extinguishing material prevents the spread of flame. It is a paper base type laminate with a modified phenolic resin and is offered in 1/32 to 1/4-in. thicknesses and sheet sizes of 39 x 47 in. and 39 in. square. Standard laminated plastic and copper-clad forms are offered. Made by **National Vulcanized Fibre Co.**, 1059 Beech St., Wilmington 99, Del.

▲ For more details circle NED-1044 D9 on enclosed inquiry slip ▲

SINTERED GLASS MATERIAL can be fused directly to steel



Code 9019 Multiform glass can be hermetically fused to 430 Ti and 446 stainless steels in a low-compression type seal. Glass is made from minute glass particles pressed to shape, then fired at high temperatures. Process allows intricate shapes, holes, and small radii to be formed economically in glass. Parts retain properties of the parent glass. Working point of glass is 850 to 1000° C. Typical applications, as shown, are the two terminal coaxial hermetic connectors, the multilead connector, and the semiconductor hermetic terminal block. Developed by **Corning Glass Works**, Box 544, Corning, N. Y.

▲ For more details circle NED-1045 D9 on enclosed inquiry slip ▲

MASTIPAVE

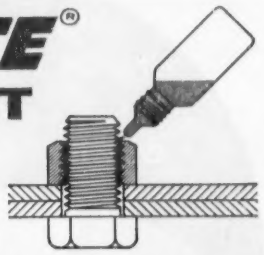
Takes brutal beating for years without showing sign of wear. Deadens noise, lowers worker fatigue. Stays clean with less care, less cost. In rolls or tiles, lay low-cost Mastipave anywhere without surface preparation. Get all the facts!

FREE ILLUSTRATED BOOKLET!

Send for "Every Building Needs Pabco Mastipave." Case histories, technical data. Pabco Mastipave, Fibreboard Paper Products Corp., 475 Brannan St., San Francisco

▲ For more details circle NED-1046 D9 on enclosed inquiry slip ▲

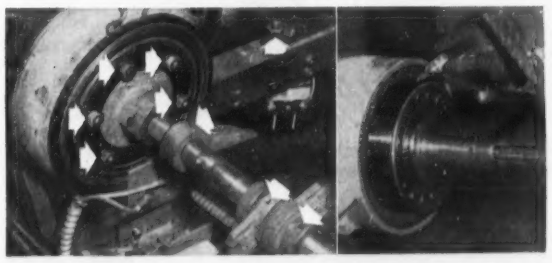
LOCTITE® SEALANT



- STOPS costly breakdowns due to loose nuts and bolts
- REPAIRS loose bearings without costly shaft or housing preparation
- SEALS hydraulic & gas pressure lines

LOCTITE SERVICE KIT #2-10

Kit contains two plastic squeeze bottles of Loctite sealant, a jar of cleaner (for use on greasy or oily joints), swabs, and simplified directions. Order your kit today . . . start saving the Loctite way.



Loctite secures set screws in couplings, cams, gear-hubs, cap screws in clutch of Sherman Bowling Pin Setting Machines.

Replacing 9" bearings in jaws of rock crusher, using clearance fit and Loctite. Acme Road Machinery Co., Inc.

LOCTITE REQUIRES NO HEATING OR MIXING

BEARINGS, INC.
3631 Euclid Avenue,
Cleveland 15, Ohio

DIXIE BEARINGS, INC.
276 Memorial Drive, S. W. Atlanta, Georgia

BEARINGS, Inc., 3631 Euclid Avenue, Cleveland 15, Ohio

Dear Sir:
Please send me additional information on the Loctite Service Kit #2-10.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle NED-1047 D9 on enclosed inquiry slip ▲

Multi-Pic

—THE FIRST REAL IMPROVEMENT IN WELD HAMMERS

Five separate tool steel pic points are locked between free floating guide plates to permit each pic to adjust instantly to any convex, concave or irregular weld surface. Cleans quickly, easily, completely with one-fifth the time and effort.

Repeater Brush whisks away loosened slag, oxides and rust in a jiffy; reaches into deepest corners and crevices. Provided with quick, simple adjustment to compensate for wear.

Two Models: double 5-pic pointed ends or dual 5-pic and 25-pic pointed ends as illustrated with or without Repeater Brush. Extra brushes 3 in a carton.

ORDER FROM YOUR DEALER TODAY

If he cannot supply you, write direct for descriptive folder and name of nearest dealer.

Patents Pending

BERNARD WELDING EQUIPMENT CO.

10232 AVENUE N. CHICAGO 17, ILLINOIS

▲ For more details circle **NED-1048 D9** on enclosed inquiry slip ▲

If you need an INDUSTRIAL PAPER with Special Characteristics

MOSINEE

will make it to your EXACT SPECIFICATIONS

for complete information write

MOSINEE

PAPER MILLS COMPANY

Mosinee, Wisconsin

▲ For more details circle **NED-1049 D9** on enclosed inquiry slip ▲

READ any surface temperature with Alnor® PYROCON

Equipment...material...metallic or non-metallic...flat, curved... revolving or stationary—you can read every surface temperature accurately in less than 3 seconds!

Compact, complete in precision design, this rugged instrument assures highest standards of speed, accuracy and dependability.

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle **NED-1050 D9** on enclosed inquiry slip ▲

New Literature & Catalogs

Buying Government Surplus

"How and Where to Buy Government Surplus" is title of a 48-page handbook which relates how to bid and buy from the U. S. Government. Kinds of surplus available, why it is available, how to get your name on the bidder's list, how surplus sales are conducted, grades of surplus, and how to pay for the surplus you buy are among subjects covered. Booklet is sold for $1 by Aviation Surplus Center, York, Pa.

▲ For more details circle **NED-1051 D9** on enclosed inquiry slip ▲

Industrial Truck Selector Guide

Automatic Transportation Co.—Over 150 models for a wide variety of requirements are illustrated in the 20-page "Industrial Trucks Selector Guide." Selection factors such as capacity, frequency of use, power source, and use of semistandard or special trucks are covered. Fork, platform, pallet, and hand trucks, their attachments, and tractors in gas or electric powered models are detailed. Capacities range from 1000 to 200,000 lb.

▲ For more details circle **NED-1052 D9** on enclosed inquiry slip ▲

Industrial Automation Equipment

Radio Corp. of America, Industrial & Automation Div.—Series of data sheets contain descriptions and specifications on "building block" type automation machines for mechanizing and integrating production and assembly operations. Floor feeders and orientors, rotary hoppers, grinder controls, automatic hardness testers, and others are covered.

▲ For more details circle **NED-1053 D9** on enclosed inquiry slip ▲

Conveyors, Elevators & Feeders

Prab Conveyors, Inc.—Magnavator automatic elevator for magnetic handling of small parts; Tube-Veyor enclosed bulk material handling conveyor with two-directional chain; Chip-A-Way piano hinge steel belt conveyor; Welded Tube piano hinge steel belt conveyor; parts feeders; vibrators and vibrating conveyors; and custom-built conveyor equipment are described and illustrated in 48-page Catalog 600.

▲ For more details circle **NED-1054 D9** on enclosed inquiry slip ▲

Industrial Locomotives

Fate-Root-Heath Co.—Both gasoline and diesel powered industrial and mining locomotives in sizes from 3 to 80 tons are described in illustrated brochure. Four and six wheel cab-in-front models, compact Mine-o-motives, and heavy duty tandems for standard and narrow gage use are detailed. The Torqmotive hydraulic torque converter transmission is offered on most models.

▲ For more details circle **NED-1055 D9** on enclosed inquiry slip ▲

Automatic Roll Feeds

Durant Tool Co.—Specifications and prices for 15 standard Durant automatic roll feeds and accessories are given in catalog. Accessories include two-piece adjustable eccentric, adjustable mounting brackets, vernier adjustment attachment, and standard heavy and extra heavy duty indexers.

▲ For more details circle **NED-1056 D9** on enclosed inquiry slip ▲

Universal Joints

Curtis Universal Joint Co.—Comprehensive Catalog C4 on single and double universal joints supplies prices and specifications; instructions for disassembly and lubrication; hints for proper selection; applicable military specifications; and a conversion table between static torque and horsepower at 100 rpm. Hub diameters range from 3/8 to 4 in. in 14 sizes.

▲ For more details circle **NED-1057 D9** on enclosed inquiry slip ▲

Nylon Shapes

Polymer Corp. of Pennsylvania—Property advantages of Nylatron GS (molybdenum disulphide filled) nylon shapes for use as gears, rollers, bearings, washers, wear strips, and pads are pointed up in 4-page Bulletin BR-2e. Available stock forms are rod, tubing, strip, plate, discs, bushing stock, and tubular bar.

▲ For more details circle **NED-1058 D9** on enclosed inquiry slip ▲

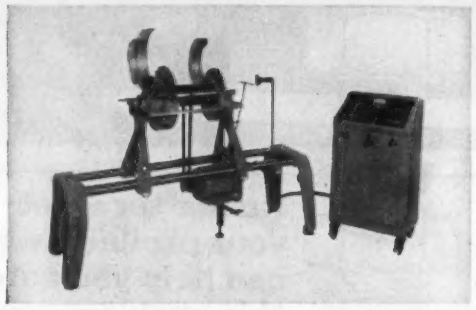
Data Processing Auxiliaries

Tab Products Co.—80-page Catalog 10 lists auxiliary equipment for data processing departments involving card filing, card handling, control panel storage, and tape handling equipment. In addition to card file cabinets and magnetic tape racks, catalog introduces a reversible Tabtray for use on sorter racks in storage and transit. It lists 60 models of open reference tub files for data processing cards.

▲ For more details circle **NED-1059 D9** on enclosed inquiry slip ▲

Balances Rotors from 2 to 600 lbs.

Turbines, Impellers. Aircraft accessories, Armatures, Pulleys, Drums, etc., may be quickly and accurately balanced with the new Micro Balancing Model SU-7 Dynamic Balancer.



Here in one simple, most versatile, relatively low-cost machine, is the answer to 95% of balancing problems encountered in industry!

Occupies minimum space . . . needs minimum fixturization . . . requires no foundations or hold downs . . . easy to operate and maintain . . . handles large swing diameters . . . meets Mil/Spec B-25511 (USAF) and JIC Standards.

Write for Bulletin SU-7 for details.

MICRO BALANCING, INC.

Herrick's Road • Garden City Park, L. I., New York • Pioneer 6-0851

▲ For more details circle **NED-1060 D9** on enclosed inquiry slip ▲

NOW Controlled Tension From Start To Finish In Winding Roll-Fed Material

Never Before Anything So Efficient • Simple • Versatile

This is your chance to obtain a higher quality of wound material than ever before—and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "Alquist" Winder. It's in a class by itself. No other winding device can match it for simplicity, efficiency and flexibility.

OPERATES ON A.C. Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. It can be connected *directly* to your rewind shaft. It is entirely independent of the main machine drive. You plug it into your present three-phase power outlet—no transformers or converters to bother with. Then you set a knob to the desired tension and walk away.

AUTOMATICALLY SENSES TORQUE From the start to the very finish of your rewind operation, the "Alquist" accurately maintains the desired tension—protects even the most delicate materials from stretching, breaking or contracting. Automatically the "Alquist" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Controlled tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE The efficiency of the "Alquist" is many times greater than that of other types of winders. Maintenance is as slight as with any normal A.C. motor—there are no brushes or tubes. The "Alquist" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible—connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

MULTIPLE APPLICATIONS The "Alquist" Winder has already proved its adaptability and efficiency in multiple applications:—for winding, unwinding and inspection of paper, plastics, rubber and woven and non-woven textiles in a wide range of widths and weights.

Find out for yourself just why the Hobbs "Alquist" Winder can make such a big difference—how it can give you increased production through *positive* quality control. Mail coupon below for free information. No obligation.

HOBBS MANUFACTURING CO.

EST. 1883

410 Salisbury St., Worchester 5, Mass.

Kindly send complete information on the new Hobbs "Alquist" Winder.

Name..... *Title*.....

Company.....

Street.....

City..... *Zone*..... *State*.....

▲ For more details circle **NED-1061 D9** on enclosed inquiry slip ▲

brazing handbook

Contains Information On . . .

- Preform advantages and selection.
- Types of Blanked and Edgewound Washers.
- Alloy calculation charts.
- Features of No Tangle Notch Coil Rings.
- Silver and Aluminum Brazing Alloys — Soft Solders.
- Types of Flux and application.

Send for your free copy today!

LUCAS-MILHAUPT *Engineering Co.*

5070 South Lake Drive, Cudahy, Wisconsin

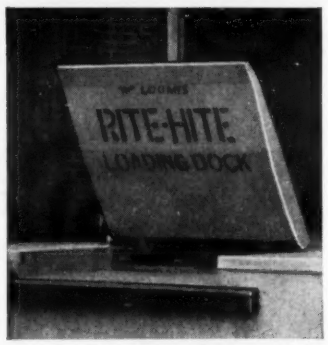
▲ For more details circle NED-1062 D9 on enclosed inquiry slip ▲

NEW safety for dock traffic

NEW operating ease

NEW

RITE-HITE



manually operated MECHANICAL RAMP

New dynamic counterweight suspension of this Rite-Hite Model 72 eliminates the need for a ramp platform control lever. Where Model 72 is equipped with Rite-Hite's exclusive horizontal adjustment, the adjustment lever lies below dock surface when not in use. Thus, no levers protrude above the dock floor to impede traffic or endanger handling equipment and personnel.

Rite-Hite dynamic counterweighting also makes it possible to actuate the ramp platform with almost effortless ease. The platform practically "floats" to up or down positions.

A new positive, adjustable locking mechanism locks the ramp platform level with the dock surface when desired, permitting dock traffic up to the ramp's rated capacity to travel across it freely. Available for Model 72 ramps purchased without the Rite-Hite horizontal adjustment feature.

For full details on this new Model 72 — and any other of the complete line of manually operated and truck-actuated Rite-Hite Ramps, all of 10 ton capacity — write today, Dept. N-49

RITE-HITE DIVISION **LOOMIS MACHINE COMPANY**

133 EAST FOURTH STREET, CLARE, MICHIGAN

▲ For more details circle NED-1063 D9 on enclosed inquiry slip ▲

Now! get complete data on

MINIATURE AGASTAT®

time/delay/relays

This free folder contains complete specs on 24 models of the miniature AGASTAT Time Delay Relay for missile, aircraft, computer, electronic and industrial applications. They're small as 1-13/16" x 4-7/16" x 1½", with adjustable timing ranges starting at .030 and as high as 120 seconds.

The folder gives operating and environmental specs, coil data, contact capacities, dimensions, diagrams of contact and wiring arrangements. *Write:* Dept. A33-45.

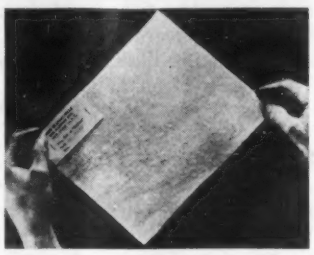
AGA DIVISION **ELASTIC STOP NUT CORPORATION OF AMERICA**

Elizabeth, New Jersey

▲ For more details circle NED-1064 D9 on enclosed inquiry slip ▲

New Processes & Materials

SYNTHETIC FELT
nonwoven product has many uses



Resistance to abrasion, moisture, temperature extremes, and most acids and alkalies is exhibited by Troyfelt, a nonwoven synthetic fiber felt. Also possessing dimensional stability and strength up to 1500 psi, depending upon the fiber from which it is made, it is uniformly smooth and has the flexibility of all felts. Material is easily die cut, will not become ragged at the edges, and is readily sewn. It can be used continually at 400° F. Dacron, Orlon, and other fibers are used in the felt, available in a variety of widths, thicknesses, densities, and permeabilities. Made by **Troy Blanket Mills**, 200 Madison Ave., New York 16, N. Y.

▲ For more details circle NED-1065 D9 on enclosed inquiry slip ▲

RUBBERY PLASTIC MATERIAL
works without vulcanizing

Tough, resilient Estane VC, a rubbery plastic material which acts like rubber, yet works without vulcanizing, also resists abrasion, tearing, solvents, oil, and ozone. Deposited as a film from a solvent, plastic has tensile strength of 7000 to 8000 psi. Film can be redissolved in the specific solvent and redeposited as another film with equal properties. Plastic has stability in blood and plasma and acceptance by tissue. Although thermoplastic and completely soluble, material has 550 per cent extensibility as well as high elasticity. Potential uses include cable jacketing, fuel hose, small bore tubing, belting, coated fabrics, engine mounts, valve diaphragms, and insulators. Developed by **B. F. Goodrich Chemical Co.**, 3135 Euclid Ave., Cleveland 15, Ohio.

▲ For more details circle NED-1066 D9 on enclosed inquiry slip ▲

NONSKID FLOOR FINISH
coating contains abrasive grit

Durable, slip-resisting surface is maintained under wet or dry, indoor or outdoor, and oily conditions by Lewbill safety floor finish. The colored, paint-like material contains abrasive grit. It is applied by brush or trowel to metal, wood, and concrete floors, drying in about 6 hr. Cleaning is with ordinary detergents. Light gray, dark gray, and tile red colors are offered in 1 and 5-gal cans. Made by **Lewbill Industries, Inc.**, 2002 Clark Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-1067 D9 on enclosed inquiry slip ▲

MOVE THE MIND AND YOU MOVE THE MAN!

Employee cooperation on Quality Workmanship and Waste-Cost Reduction comes easier with the Elliott Hi-Vision Program. In use in thousands of plants.

Complete details and colorful samples are yours without obligation. Simply fill out the coupon and mail it today.

ELLIOTT SERVICE COMPANY, INC.
Department NE-1, Mount Vernon, N. Y.

Please provide me, without obligation, further information and multi-color samples of your Hi-Vision Program.

Name .....
Title .....
Firm .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-1068 D9 on enclosed inquiry slip ▲

STOP HYDROSTATIC PRESSURE **LEAKS**

THROUGH CRACKS or HOLES IN UNDERGROUND **WALLS** with

SEEP-SEAL

STOPS THE LEAK IN 2 MINUTES

Water seepage, even hydrostatic pressure leaks, commonly found in underground concrete structures, are no longer a difficult problem to overcome. A simple, quick and most effective remedy is found in Seep-Seal. This amazing new formula, mixed with Portland cement, and inserted in any crack or actual hole in concrete, will set within 2 MINUTES to shut off ALL leakage. Ideal for manholes, elevator pits, reservoirs, subways, mine-shafts and similar structures. Also widely used in plaster-consistency for damp-proofing floors and walls.

Write for complete details and prices today. Immediate shipments

ROCK-TRED Corporation

Manufacturers of a Complete Line of Building Maintenance Materials

7440-7450 North St. Louis Avenue • Skokie, Illinois

▲ For more details circle NED-1069 D9 on enclosed inquiry slip ▲

WHEN YOU WANT COPIES QUICKLY -

YOU GET THEM WITH

Rotolite FOR MODERN COPYING

LOWEST COST MACHINE . . .

FOR MODERN COPYING

Lowest cost machine ever developed to reproduce anything printed, written, drawn or photographed on translucent material. Does same job as machines costing many times more. Hangs on wall out of way. Easy to operate.

USERS SAY

"Have been using your Rotolite machine for years . . . It produces prints that are sharp and clear with a minimum of effort. It is certainly convenient to be able to have a copy ready for distribution within minutes . . ." Rudd-Melikian, Inc., Manufacturers of Automatic Beverage, Merchandising Cup Machines, Hatboro, Pa.

"It has been a real pleasure to find as we have with the Rotolite that someone has made available equipment as simple and as flexible in use as yours has proven to be . . . results are uniformly clean and legible . . . at a cost far less than that of any other reproducing machine."—Industrial Gauges Corporation, West Englewood, N. J.

PRICES:

18" $129.50. 27" $149.50. 42" $189.50

Slightly higher, Denver and West f.o.b. Stirling, N. J.

ROTOLITE SALES CORP.

STIRLING, N. J.

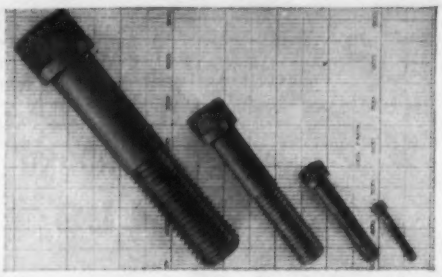
Write for folder, using memo below

ROTOLITE SALES CORP., Stirling, N. J.

Please Send Us Folder on Rotolite.

Name .....
Company .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-1070 D9 on enclosed inquiry slip ▲



Dimensionally Controlled Heat Treatment

gives Mac-it screws maximum holding power

End-use requirement is an important factor in determining heat treatment specifications for Mac-it alloy steel screws. While physical dimensions are a prime factor, the proper combination of strength, toughness, ductility and resistance to shock and vibration must be achieved if the correct torque-tension—or holding power—is to meet your exact requirements.

Mac-it metallurgists determine a heat treating cycle that takes into consideration material, size *and* end use. This combination-of-three results in Mac-it screws with maximum holding power.

Every step in the manufacture of Mac-it screws is followed with care by specialists who know what you want—and want you to have it. That's why Mac-its *hold tight in a tight place!*

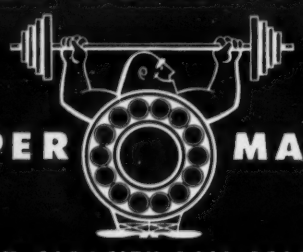
Mac-it

NEW SPECIFICATION SHEET listing new 1960 Series Socket Screw Industry Dimension Standards. Write for your *free* copy.
Mac-it Parts Co., Dept. 24, Lancaster, Pa.

MAC-IT ALLOY STEEL SCREWS

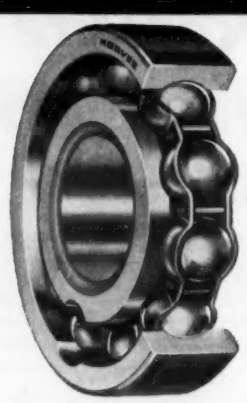
▲ For more details circle **NED-1071 D9** on enclosed inquiry slip ▲

hoover introduces



"SUPER MAX"

MAXIMUM CAPACITY BALL BEARINGS



Hoover has designed "Super Max" bearings to provide the greatest radial capacity that can be efficiently obtained in a single row ball bearing. These durable bearings utilize the maximum number of extra-large-size balls that can be introduced into the bearing giving optimum load-carrying ability. In addition, the smoothness of *Hoover Honed* raceways and the perfect matching of *Micro-Velvet* balls, accurate within millionths of an inch, contribute to exceptional load-carrying capacity.

Hoover "Super Max" bearings are recommended for applications requiring extended life under relatively heavy radial loads. They are available in open and shielded types, with or without snap ring, to meet maximum capacity requirements.

hoover
BALL AND BEARING COMPANY
5400 South State Road, Ann Arbor, Michigan
Sales Offices and Warehouses:
2020 South Figueroa, Los Angeles 7, California
290 Lodi Street, Hackensack, New Jersey

Hoover Honed, Micro-Velvet and *"Super Max"* are Hoover trademarks.

FREE LITERATURE
Check the information you want.
☐ BULLETIN 107 gives complete data on "Super Max" bearings.
☐ HOOVER HANDI-BOOK of Anti-Friction Bearings outlines bearing types, problems, applications.

NED-4

Hoover Ball and Bearing Company
5400 South State Road, Ann Arbor, Michigan

Name_____
Title_____
Company_____
Address_____
City_____ State_____

▲ For more details circle **NED-1072 D9** on enclosed inquiry slip ▲

New Literature & Catalogs

Traffic Control Products

Traffic Equipment Co.—Among the traffic control products described in brochure are Sentry all-purpose and contractor-type road barricades, interchangeable barricade and traffic warning devices, tripod warning stands, 5-unit flashing light barricade system, and a 7-in. Safety-Flash light.

▲ For more details circle **NED-1073 D9** on enclosed inquiry slip ▲

Stainless Pipe & Tube

Union Steel Corp.—Unionweld L grade stainless steel pipe and tube is subject of 8-page Bulletin U. Variations, including drawn tube with inside diameter bead removed, are described, along with tolerances for pipe and tube standard products.

▲ For more details circle **NED-1074 D9** on enclosed inquiry slip ▲

Cutters, Reamers & Special Tools

Special Cutter & Tool Co.—Unusual cutting situations being performed regularly with company's line of cutters, reamers, and special tools are featured in 4-page folder. It outlines services and facilities for both standard and special items. Sizes of two, three, four, and six-flute end mills and shell end mills are tabulated.

▲ For more details circle **NED-1075 D9** on enclosed inquiry slip ▲

Extruded & Coated Tubing

William Brand & Co.—24-page Manual 59T furnishes specifications and customer service information relative to Turbo extruded tubings, heat-treated glass sleeving, coated tubings, and identification markers. Footage requirements for cut pieces are also included in the illustrated catalog.

▲ For more details circle **NED-1076 D9** on enclosed inquiry slip ▲

Adjustable Speed Drive

Louis Allis Co.—Redesigned Ajusto-Spede drive in ¾ to 7½-hp ratings operates on alternating current and supplies precise operating speeds for machine tools, process machinery, test equipment, conveyors, and similar equipment. Dimensions and engineering data are given in 6-page Bulletin 2750. Drive is suitable for continuous operation at full load in ratios as high as 34:1.

▲ For more details circle **NED-1077 D9** on enclosed inquiry slip ▲

Flotation Systems for Coolants

U. S. Hoffman Machinery Corp.—Continuous automatic clarification of water soluble oil coolants increases machine tool productivity and eliminates the need for sump cleaning, according to 4-page illustrated Bulletin FB-102. Units are available for flow rates from 50 to 1500 gpm. Specifications are given.

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Machining of Aluminum

Data on machining practices, tool angles and designs, and tool materials are provided in 32-page handbook "Machining Aluminum." Eight charts cover turning, milling, shaping and planing, drilling, reaming, tapping, filing, and sawing. Feeds, speeds, and lubricants are covered. Request on company letterhead from Reynolds Metals Co., Box 2346, Richmond 18, Va.

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Variable Speed Belts

Browning Mfg. Co.—Alphabetical listing of make and model of variable speed belt units, interchange guide on other makes of belts, a numerical listing, and list prices are contained in Catalog V-173-B on Browning VS belts.

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Vibration Control Products

Felters Co., Unisorb Div.—How to relocate machinery; the purpose and advantages of using Unisorb cement, and recommendations on the type, densities, and thicknesses of Unisorb pad required for various types of machines are among the machine installation and vibration control problems solved in 6-page illustrated folder. Directions on a do-it-yourself leveling mount are included.

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Control Valve Finder

Hannifin Co.—Discussed in handy "Valve Finder" are air valves and their selection. This 12-page Guide No. 234 also condenses listings of all Hannifin air control valves for pneumatic equipment and systems. Operating principle, type of control, description, and available sizes are given for each type.

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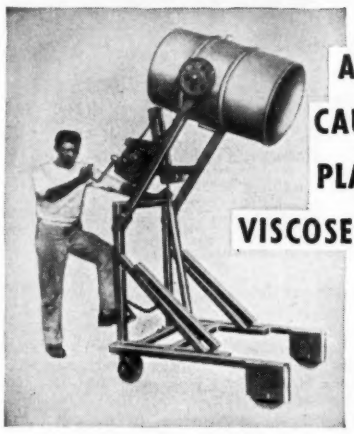

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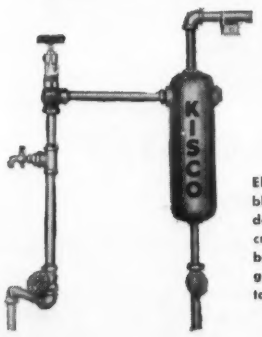

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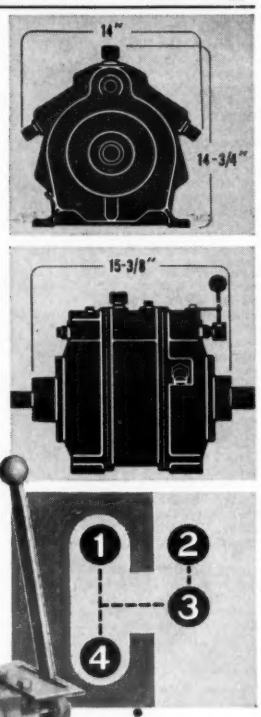

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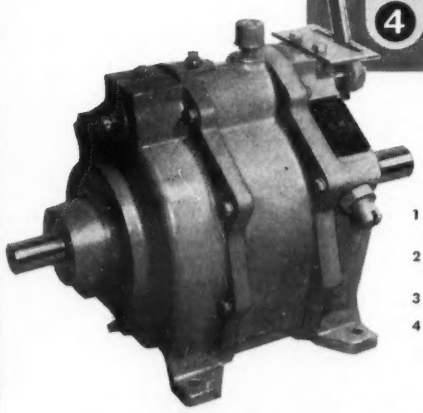

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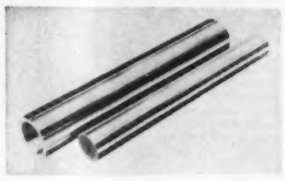

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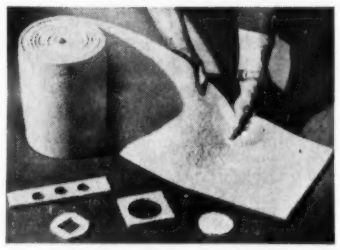

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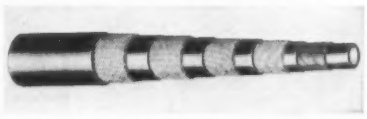

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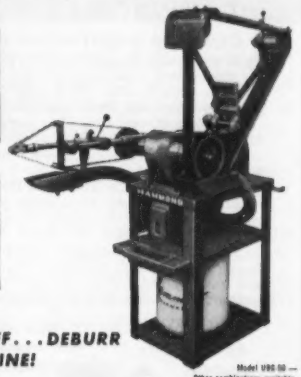

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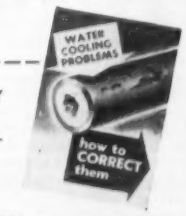

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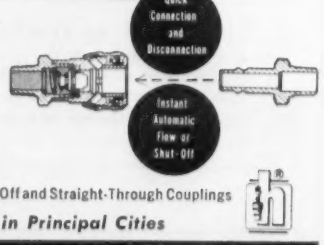

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*Patents Pending

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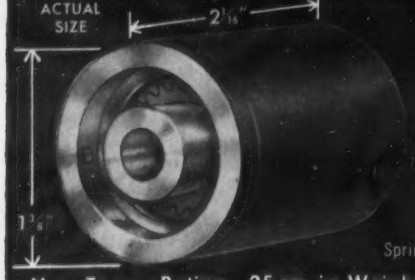
Stearns miniature electro-magnet disc

BRAKE

Style "SC" — Size No. 2

SHOWN ACTUAL SIZE



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Stationary Field
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Stub-Shaft Mounting
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"Fail-Safe," Spring-Closed Type

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Voltage Rating — 28VDC (4.9 Watts)
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MILWAUKEE 2, WISCONSIN

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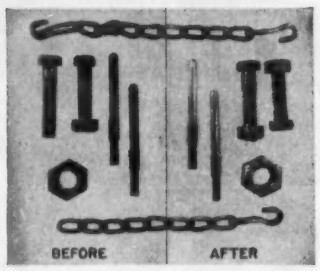
SOLVES RUST PROBLEMS

Cleans Steel, Cast Iron, Galvanized, Stainless Steel and Zinc Base Metals



FARRELLOK REMOVES RUST yet requires no surface preparation. It penetrates and dissolves dirt, oil and gook while it deposits a highly ductile phosphatized coating that will not flake off when bent or dented. Coating will absorb oil which gives further protection against corrosion.

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FARRELLOY COMPANY
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Cleans Instantly Difficult Stoppages — Sewers ½" to 6" Diam.

SIMPLE TO OPERATE, THIS NEW GUN DELIVERS AN IMPACT WHICH INSTANTLY DISLODGES OBSTRUCTIONS. NO NEED TO REMOVE PIPE, GREASE TRAP, OR CROSS PIECE.

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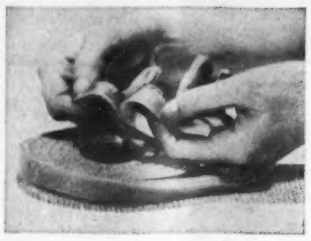
New Processes & Materials

SELF-ADHESIVE FOAM
plastic adheres to any surface



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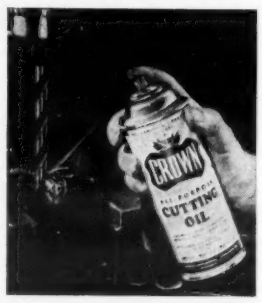
TAPPING & CUTTING OIL
clinging type in spray cans



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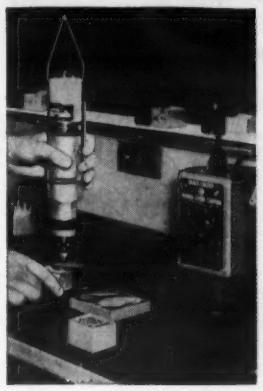

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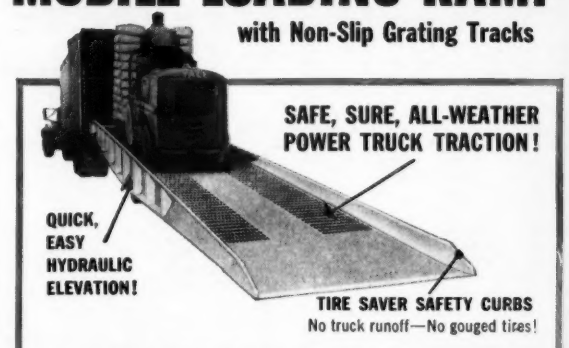
with Non-Slip Grating Tracks



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